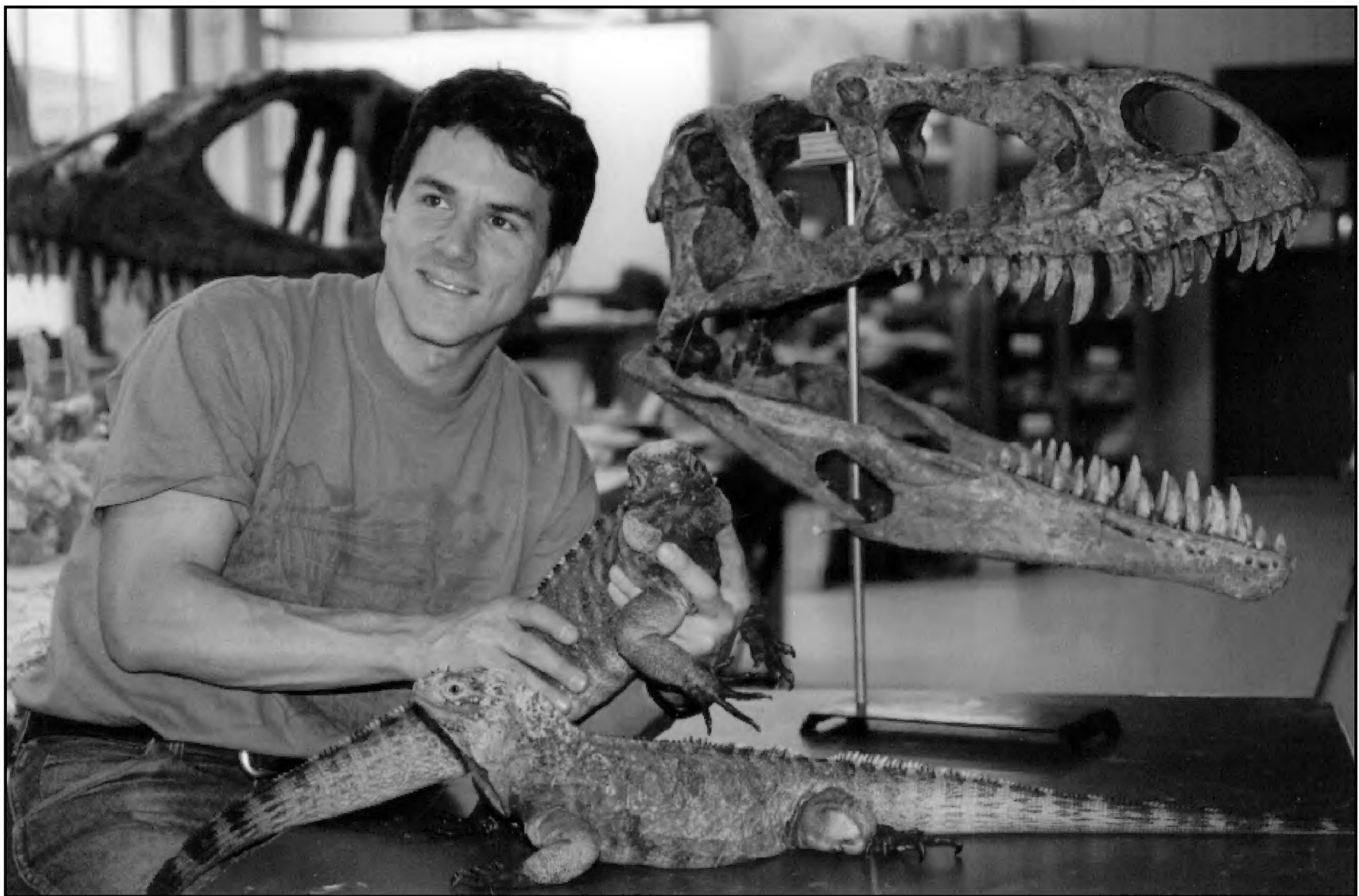

BULLETIN

of the

Chicago Herpetological Society



Volume 35, Number 3
March 2000



BULLETIN OF THE CHICAGO HERPETOLOGICAL SOCIETY

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On the Trail of Arizona's Rarest Snake

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Phase One: The Bait

In December 1988, the Tucson herpetological community was ablaze with excitement. This in itself is worthy of further comment, as the words "excitement" and "Tucson herpetological community" have never before appeared in the same sentence. For the most part, our local herpers lapsed into semi-permanent comas decades ago. It takes a truly great event for these people to generate enough energy to merely unglaze their eyes, let alone display enthusiasm about something. And in December 1988, there was a current of enthusiastic energy running through every fiber of every being in an otherwise brain-dead group.

The reason for all the excitement was this: The head of the herpetology lab at the University of Arizona, one Dr. Chuck Lowe, was going to speak to the Tucson Herpetological Society. This is also worthy of further comment. Dr. Lowe was famous for his reclusive ways. Many of us had never seen the man before, so rare were his personal appearances. A few of us even speculated that the name was, in reality, somebody's clever scheme to collect a paycheck by operating under a fictitious name. (Stranger things than that have been known to occur in academia.)

As if the rumored stage presence of this herpetological whale amongst minnows wasn't enough to have us *all* jumping up and down whilst wetting both pant-legs, the title of his talk *really* had us blown away: "Arizona's Rarest Snake." The cryptic title was all we had to go on—there was no mention of what Arizona's rarest snake might be.

The title sparked a plethora of debate amongst all us upstarts who seemed to think we could second-guess our mighty speaker on just what the rarest snake in Arizona was. My own choice, the vine snake, was a popular one, as were the thornscrub hook-nosed snake and green ratsnake. A few others thought that it might be some obscure form of gartersnake or other type of snake-hype used to suck us in.

The night of the talk arrived, as did our speaker. After the necessary introduction by program chair David L. Hardy, Sr., a huge bearded hulk of a man lumbered onto the stage. It has been rumored that the good doctor used to play college basketball in his youth. In his older age, he looked like he could have played football! If this man were to look at me and say, "Shut-up and sit down," the reader may rest assured my posterior would immediately connect with chair, or floor—whatever was beneath it!

For all his reclusive ways, the big guy knew how to work an audience, and instantly won the hearts of those of us who didn't know him well. He informed us all that he felt privileged to earn a paycheck while doing the job he loved. The

good doctor capped this statement by saying, "Heck, my bosses don't know that even if they didn't pay me, I'd still be doing this!"

It came as a great surprise to learn that the snake being touted as rarest in Arizona was none other than the Utah milksnake (*Lampropeltis triangulum taylori*). Prior to this evening, I was oblivious to the fact that our state even had any milksnakes.

As mentioned earlier, Dr. Lowe is infamous for his secretive ways. He has been known to deliberately hold back information from the local herpers, lest he inadvertently reveal his secret stomping grounds. But on this night, he told everything he knew about Utah milksnakes. In the collection of the U of A, he had six preserved specimens. He also had reliable information of four others found. On one of his slides, he showed the locations of where these snakes had been collected. There were ten dots on his map that were widely scattered from near Flagstaff to Springerville to Saint Johns—all in the north-central to northeastern part of the state. He also revealed the dates his specimens were found, and the type of habitat in which to look for them. In short, he actually *encouraged* us to head to these areas to find more. All this was way out of character for the man, and perhaps served to demonstrate how desperate he had become to get more specimens.

I certainly needed no further encouragement. A few sporadic trips to the regions discussed transpired, using methods best described as half-hearted. The results of these minimal efforts were predictable. Rome wasn't built in a day, and finding a milksnake in Arizona was going to be far more difficult than any trivial construction project. Nine years after Dr. Lowe's talk, I was still sans a single specimen.

Phase Two: A Milksnake Honey-Hole?

Help sometimes arrives in unexpected fashion. During the early to mid 1990s, I became heavily involved with what might be the most common snake in Arizona—the western diamond-back rattlesnake (*Crotalus atrox*). In short order, I was immersed in a winter wonderland just full of the lovable brutes. After a few years it became apparent that I was in over my head with the hefty vipers, and needed help explaining some of the things witnessed at the snake dens under observation. I began contacting various researchers around the state who had worked with diamondbacks. For a few years, I had been hearing of a woman in the Flagstaff area named Erika Nowak. Erika was doing radio-telemetry studies relating to relocation issues of *atrox*. In 1996, I made my first contact with Erika, and we eventually began communicating via E-mail.

I met Erika for the first time in August 1997 when she came to talk to the Tucson Herpetological Society about her research. This helped to solidify our relationship, and the "e-discussions"

became a little more open. In September 1997, an E-mail from Erika dropped the bomb on me: She had been quietly working at Petrified Forest National Monument, and during the course of the season, had found six colorful little milksnakes. Did I know anything about them?

My eyes went out on stems! *Six milksnakes!*? Unbelievable! Six of Arizona's rarest snakes—in one season? Whoa! Sign me up for *that* tour of duty!

My response indicated my willingness to “help” her to find more, but it was to be a little while longer before the two of us could actually get together to try it.

In spring 1998, Erika once again came to Tucson to sit in on a panel discussion on rattlesnake relocation issues. At the customary pre-meeting gathering of drunk and disorderly herpers, she quietly slipped some slides to me. Within the one inch framework of these slides were several different specimens of red, white, and black milksnakes. They were beautiful little jewels—something to covet, something to strive for, something to seek and eventually, to find! My life list was empty without one. All the ridgenose rattlers, all the mountain king-snakes, the green ratsnakes, the tiger rattlesnakes and Gila monsters—they were but minor pimples on the mountain of my life list. This same life list mountain needed a milksnake to crown it, or it would collapse and become a measly molehill. My life was incomplete—I was a failure. It was time to consider drinking the drain cleaner.

Rather than resort to such drastic gastric measures, I chose to begin a process best described as persistent, pernicious pestering. As the name might imply, persistent pernicious pestering involves E-mail terrorist tactics, lots of phone calls, and old-fashioned suck-up techniques. These tactics were applied as an art form until such a time as the recipient finally caved in and extended the much-coveted invitation. The plan was set, and the plan was on.

Phase Three: The Big Petrified Forest Milksnake Caper

This author has read the accounts of field trips in many herp-related newsletters, journals, and other publications. How does one begin to chronicle that special adventure, that one-in-a-thousand trip, that memorable effort that culminates in a decade-old dream being fulfilled? How does one start such an article? This author doesn't have a clue, so he resorts to plagiarizing the works of others:

In the beginning, there was a date. The date was August 29, 1998. The date was good. Also in the beginning, there was a 1991 white Toyota pickup truck. A geek started the truck, heard the four-cylinder engine sputter effectively to life, and noted that all was good. The geek manipulated the gear-shift to “R” for “back up,” depressed the clutch, gave her some gas, and the truck moved backwards. Backwards was good, as was the forward progress set into motion by a gear known as first. A right turn was negotiated, and the geek was off and running.

Many leagues of pristine Sonoran Desert began drifting past. Miles and miles of saguaro-studded hillsides undulated to

either side of the mighty little truck that could, did, and still can. As elevation was gained, the saguaro-infested terrain merged into juniper and oak studded hillsides. Then came the towering ponderosa pines, flanked by tall, lush grass and orange, red, and blue flowers. A great deal of elevation was then lost as the road twisted its way down through the nine-mile-long pathway leading into Salt River Canyon. Then it was back up the other side, up a winding, paved stairway to heaven, back up to the mighty ponderosa pines and a land so green that it hurt the geek's eyes to look at it. The magnificent pines flanked the truck for no short amount of time, until it broke through them onto a vast flat and grassy expanse that seemed to stretch onward to infinity.

There was a stop in the town of Holbrook, the land of petrified everything for sale. Gas was purchased and, through a greasy lunch, gas was created. Then it was eastward along I-40, and a turnoff that led to the north entrance of the Petrified Forest National Park. A few words and a name were exchanged with the ranger at the entrance shack, the gate went up, and ten bucks remained in the wallet. It is always nice to have important friends in the proper places.

I was there! In a land flowing with milksnakes and the left over remnants of ancient forests. Off to my left, the grasslands so green and lush began to disintegrate and break up as they collided with the kaleidoscopic hues of an expanse that has rightfully earned the name of “The Painted Desert.” Harsh, multi-hued sandstone battlements abruptly rose from the verdant sea surrounding them. Row upon row of the silty-gray mounds rose from the earth, each mound was split by layers of pink, orange, mauve, and purple sediments, that changed color with every angle of the sun or drifting cloud. Here and there, the hillsides were adorned with brick-red boulders the size of boxcars. And, scattered about plain and hillside alike were the remains of broken fossilized trees that give the park its name. Yup—I was there, in a land that time had once forgot, but now, through tectonics and erosion, had exposed itself once again for the human eye to behold.

Through all this my vehicle carried me, and a chance glance at my watch indicated that I was one hour early for my appointment with Erika. This allowed me one hour to play a game I am very familiar with, a disappearing act that carries the alias of “herping.” A pullout was encountered and utilized, and in no time flat, the truck was aimed in the opposite direction of my rendezvous.

A short time later, a serpent-like shape was encountered lying on the west side of the pavement, stretched across the yellow line. The brake pedal was applied, and through the marvel of modern mechanics, the truck ground to halt. “R” for backup, brakes for stop. The eager herper egressed from his vehicle, and viewed his find.

The rattle at the end of the tail was familiar, but everything else was different. It was a smallish snake; maybe 16 inches long, with a base coloration of brownish-pink. Some narrow white lines looped their way along the vertebrae to create blotches out of the base coloration, and these same white lines created a form of striped mask on the sides of the chunky head.



Figure 1. Utah milksnake (*Lampropeltis triangulum taylori*) captured the evening of 28 August 1998. This snake was a female, snout-vent length 530 mm (20.86 in), tail length 75 mm (2.95 in), and weight 61.4 g (2.17 oz). The snakes pictured in Figures 1 and 2 were most uncooperative during the photo session. Both snakes were exhibiting defensive “balling” behavior, where the tail is offered and the head is hidden. These snakes were worked for over an hour, and this was the best pose I could get!



Figure 2. *Lampropeltis triangulum taylori* captured the evening of 29 August 1998. This snake was also a female, with snout-vent length 490 mm (19.29 in), tail length 80 mm (3.15 in), and weight 57.4 g (2.02 oz).



Figure 3. Hopi Rattlesnake (*Crotalus viridis nuntius*) found the morning of 30 August 1999 beneath a railroad tie at the “boneyard” of Petrified Forest National Park. The snake was very ill tempered, and at over 20 inches in length is considered large for the subspecies.



Figure 4. Typical habitat of *Lampropeltis triangulum taylori*. “Every milksnake was found along a paved road, in a grassland situation, usually with some form of boulder-strewn hill nearby.”



Figure 5. Male Utah milksnake (*Lampropeltis triangulum taylori*) shown in hands for size perspective. This individual was the progeny of a gravid female collected near Holbrook, Arizona. Note the difference in banding between the three individual snakes shown on this page. At this point in time, no systematics work has been done on the milksnakes in Arizona. We could use a little help!



Figure 6. Erika Nowak weighing an Arizona black rattlesnake (*Crotalus viridis cerberus*). Erika is a wildlife biologist working on various herp-related projects for the United States Geological Survey’s Biological Resources Division, through Northern Arizona University. Her work includes: nuisance rattlesnake relocation issues at Montezuma Castle and Tuzigoot National Parks; reptile and amphibian inventories at Petrified Forest National Park; and natural history work on the narrow-headed gartersnake (*Thamnophis rufipunctatus*) in Oak Creek Canyon. In her spare time she studies two winter denning areas of Arizona black rattlesnakes.

Of course, I was looking at a Hopi rattlesnake (*Crotalus viridis nuntius*), but it took me a second to realize this. Faster than the snake identification came the realization that the snake was quite dead, but in good shape for a road kill. Nobody but a geek would pull out a camera to photo a dead snake on the road, but that is what happened next.

The finding of this DOR Hopi brought my personal numbers to a grand total of two for the species. Curiously enough, the only other Hopi ever seen was also dead, found at the south entrance to Petrified Forest in June of 1989. I had now visited Petrified Forest twice, and had back-to-back dead Hopis to show for it. While two dead Hopis were better than nothing, the hope of a living specimen on this trip sprang to life. A new life list species of any rattlesnake always makes any herp trip worth the while.

A quick look at my watch told me it was time to double back for my appointment with Erika. The necessary steps to do this were followed, and a half-hour later I found myself pulling into the parking lot adjacent to rows of barrack-like buildings. As is becoming normal for two time-oriented individuals like Nowak and Repp, we arrived at the meeting point simultaneously.

Erika was walking towards the parking lot as I pulled in. She is a petite woman, lean of build, slender of waist, with elfin features that reveal an inner peace, beauty, and sense of humor that few in our field demonstrate. She exhibits all the traits that will someday earn her the respect she needs to succeed in a male-dominated field. Her intellect and reasoning skills are sound, her scientific standards impeccable, and her desire to be the best she can be are all evident to those who know her.

“Hey — get that cooler for me,” said I, trying to get her to haul the heaviest thing in my truck to our headquarters.

“Sure thing,” came her reply. She then picked up the lightest suitcase she could find, and led the way to our home away from home for the next three days.

Upon entering our U.S. Government approved apartment, it was apparent that my adventure to Petrified Forest was going to be a comfortable one. A full kitchen was available, as were separate rooms with beds, and two bathrooms with showers. This situation is atypical in Arizona, where most herp trips wind up being “Outward Bound” types of experiences.

Once the full unloading process was complete, a plastic five-gallon bucket located along a wall of our TV-less living room caught my eye. Knowing that such buckets can contain many wondrous treasures, it attracted me like a geek magnet. Upon peering through the Plexiglas lid, my eyes detected a slim, multicolored snake curled on the plastic at the bottom. It was a milksnake! Arizona’s rarest snake, all neatly packaged for me to behold.

“Whoa!” I exclaimed, “you got one!”

“Yup — last night!”

There then ensued several minutes of my own foot contacting my posterior several times. I was *supposed* to have been

there “last night,” but had made a last minute change to accommodate something far less important. This was a harsh lesson in the cause and effects of throwing a wuss at an improper time.

“So — you went out last night without me?” (This was all I could think to ask.)

“Sure did. Glad we did, too!”

“I reckon you would be. What time did you find it? Where did you find it?”

“10:30 last night. And if you can pry your eyes off that bucket for long enough, I’ll *show* you where we found it.”

“Now you’re talkin’!”

With that, Erika and I piled into her borrowed U.S. Government Ford Bronco, (your tax dollars at work, thank you very much), and went off on a whirlwind tour to inspect the locations of all seven milksnakes discovered to that date. This author would love to regale the reader with exact specifics of where these were found, but it would do no good whatsoever. Every milksnake was found along a paved road, in a grassland situation, usually with some form of boulder-strewn hill nearby. As the entire park is composed of grassland, with some form of boulder-strewn hill nearby, nothing was said in the previous sentence, and nothing was said in this one either.

The most curious find of all had occurred in a men’s bathroom at one of the many mini-stops in the park. It is interesting to note that, statistically speaking, I had a 14% chance of finding one while taking a bowel movement. My other “hobby” might very well yield a new species of snake for my personal life list.

Once the final site was inspected, my guide informed me that she was tired, and wished to take an afternoon nap before embarking on the big road cruise scheduled for that evening. She inquired whether or not a nap might be a good idea for me as well. In abrupt fashion, I informed my hostess that there was *nobody* more wide awake than I was, there was no way I was going to take a nap now, and if she wanted to sleep, go ahead. I had three days to find a milksnake, and would not be thwarted by any trivialities like sleep.

My guide then patiently explained that I was a “guest” at the park, and as such, I couldn’t just go out and *find* a milksnake. We would need to visit the Park Headquarters to get me a Visitor’s Pass, and I would be required to inform them of my whereabouts at all times. This was perhaps suggested in order to persuade me that a nap might be the best course of action. Her words to that effect went in one ear, and out the other. If a Visitor’s Pass was required, why was one *not* in my hands? With an exasperated sigh, Erika escorted me to the Park HQ, where the necessary pass could be obtained. When questioned as to where in the park I would be, I sagely chose the pullout with the bathroom.

Before issuing the coveted pass, a by-the-book “Ranger Rick” verbally issued me 257 edicts, each more terrible than the last, and each one beginning with “Thou shalt not.” It went something like, “Thou shalt not go off trail. Thou shalt

not overturn rocks,” on through to number 257, “Thou shalt not have fun in any form.” After the second great commandment, I lost interest, but feigned attentiveness by nodding at each statement, and offering occasional eye contact when necessary. By the time that “Ranger Rick” was through, I was ready to defect to Communist China, where certain freedoms *do* still exist. (It is well that God, not the US National Park Service, gave the commandments for clean living to Moses. Otherwise, the poor guy would have had to carry no less than 51 stone tablets off Mount Sinai. It would have indeed been tough to lead a people through a wilderness whilst nursing an acute hernia.)

As we doubled back to our apartment, Erika explained that the park security was very tight, and reminded me again that I was her guest here. As such, any trouble I might create would be taken out of her hide first, and subsequent ramifications would then flow downhill to my person. We finally got Erika squared away with her nap, (which after she reads what ensued will probably never happen again.) The cat was sleeping away, and the mouse went off to play. As soon as I got into my truck, I said to myself, “GOOD! Now I can do whatever I want!” And off I went to explore bathrooms and trail-less expanses to find a milksnake. While doing this, an amazing thing happened: my size 12 clodhoppers grew clumsy, and I kept tripping over perfectly flat rocks. Each time this happened, the ensuing stumble would accidentally flip the rock over so that the topside was left facing down. There was nothing left to do but inspect the ground revealed by my inept footwork, and return these rocks to their proper moorings. All this fumbling around did not yield any milksnakes, but I did see a myriad fence lizards (*Sceloporus undulatus*), and two brightly colored collared lizards (*Crotaphytus collaris* ssp.) poised on the tops of boulders.

The lengthening shadows and alert attention to my timepiece soon forced a full retreat back to my truck. Keeping an eye out for any wayward rangers, I sprinted across the last stretch of open ground by the parking lot. Home clean, no harm, no foul. There remained one last thing to do, and that was to take temperatures and weather notes for Erika’s records. This being done, it was time to get in the wind.

Whilst moving windward, the splendor of my surroundings did not go unnoticed. As the afternoon had waned, so had all perspectives of the harsh paradise surrounding me. The Painted Desert lived up to its name, and sprang to life before my very eyes. The layers of various multi-colored sediment in the sandstone mounds became enflamed with glowing oranges, pinks and pastels. The distant mountains westward became backlit by a baptism of fire, losing their form and morphing into two-dimensional shadowy silhouettes. The clouds across the big sky bathed in the colors, revealing hues that no artist’s loving hand could ever recreate.

In other words, it was sunset.

I arrived back at our apartment five minutes ahead of schedule to find Erika awake and busily running hither and thither gathering the various ingredients necessary for road cruising.

It was easy to get caught up in this activity. In spite of the fact that our apartment was roomy, the searching for flashlights, snake tongs, bags and buckets had us continually bumping into each other. “Where’s my flashlight?” “Don’t bug me, I’ve got my own problems!”

Once the necessary 200 or so items were gathered, it came time to haul them all out to our big, fat American-made cruise-mobile. It was at this point that Erika dropped the bomb on me.

“I’ve made arrangements to have my volunteers meet us here.”

It must be confessed that there was no hot surge of joy running up and down my spine at this announcement. This was the first I’d heard that there would be any more people than just Erika and me on this road cruise. The thought instantly popped into my head that my favored position of “shotgun” in such affairs might be in jeopardy. But then this thought was instantly dismissed. There was no way that Roger Repp, herp king of southern Arizona, would wind up in the back seat of a herpetologically historic road cruise such as this. So I said, “Oh, volunteers! Yes, of course! How cool! Uh-just *who* are these volunteers?”

There was no time for an answer. Our two volunteers were approaching faster than the question was emanating from my gullet. Erika introduced me to a married couple named Frieda and Fritz. The two were staying at the park on an extended visit from their homeland of Albania.* To this day, it is not known how two vehicle-less people visiting from a foreign land wound up with free food and housing in an American national park, but such trivialities as this often fall under the “none of my business” category.

The uncomfortable moment arrived when it was time for all personnel to take their stations for the big event. Not wishing to sound boorish, I chuckled a bit, and asked, “Well, who is riding where?”

“Vell,” replied Frieda, “I haf mooch treble vit my back, so I moost be ridink in der front sheat.”

And before I could collect my scattered wits, Fritz opened the car door, cocked the front seat forward, and hopped in the back seat. With amazing dexterity for someone with “mooch treble vit her back,” Frieda slid into “der front sheat.”

Thus endeth any dreams of my occupying the hallowed shotgun position for this road cruise. But I wasn’t about to let this go unnoticed. A hushed but very heated conversation then ensued between the two “Americans” involved in this adventure. One American (who shall go nameless), informed the other of the folly of placing an overweight, handicapped individual in the shotgun position of a road cruise. This distraught individual went on to explain why it might be important to have someone with a good set of herp-eyes, as well as some form of quickness and a certain degree of fearlessness occupying the favored seat. While the other American was sympathetic to the finely-honed whining skills of the first, said other American was also conscious of the feelings of the person now occupying

* The names and country of origin of the volunteers have been changed in this narrative.

the position. This went back and forth for no small amount of time, until I proved just who wore the pants in this adventure by occupying the seat behind Erika. Once I was immersed into the comfortable cocoon of the back seat, (trapped like a filthy rat), Erika looked at back at me, smiled ever so sweetly, and asked, “Are you okay with this Roger?”

“Oh yes, just enraptured,” came my response. I even tried to smile back, the effort probably looking more akin to a snarl. As the truck began its forward roll, and the headlights fell on pavement, I began to adjust my body so that I had an unobstructed view of the road. It was discovered that if I cocked my neck and body at a 45-degree angle, I could see through both towering headrests before me. If I bent my neck another 20 degrees downward, I could see below the rear view mirror. It was going to be a long night. But I couldn’t begin to imagine just *how* long it would be.

A desert cottontail bounded out onto the road in front of us.

“Ah yes, I see der rabbit.” Frieda exclaimed.

“Call the newspapers,” came my sarcastic response.

“Now Roger,” Erika laughed, “Frieda is right. We’re taking notes on every vertebrate we see. Our study is centered on road mortality of *all* vertebrates in the park, not just herps. So here, take this data sheet, and log the rabbit in for us.”

As this was being said, she handed me a data sheet attached to a clipboard. The sheet was full of many lines, which fell neatly below columns with headers such as “species,” “time,” “mileage,” “living or dead” etc. I had barely entered the word “cottontail” under the correct “species” column when Frieda cried out “Ah yes, I see der kangaroo moush!”

“Who cares?” I shot back.

“No Roger, Frieda is right. We’re also recording k-rats.”

“*What?* Filthy roo-rats? What for?”

“Because this is a study on road mortality of *all* vertebrates Roger!”

“Whose idea was this anyway.....”

“Ah! I see der toad!” Frieda interrupted.

“Cram the toad . . .

“Ah! I see der ’nother toad.”

“Ok Frieda, we’re stopping.” With this announcement, Erika gently braked to a halt, the vehicle rolling another 50 feet beyond the toad in question. I was about to ask why she took so long to stop, when Frieda began whimpering in pain.

“Your schtops are killink my back,” she cried.

“Sorry Frieda—I’ll try to do better.”

“Try to do better?” I muttered under my breath, “if she does any better, the toad will die of old age before we can hike back to it.”

While Erika trotted back to get the toad, I had time to update the hated data sheet before me. Erika arrived back at

the truck with a squirmy little piece of protoplasmic-like animal matter, calling it a *Scaphiopus multiplicatus*. I was told to note that there were two such slimy vermin on the road, and I was to update the data sheet accordingly. Feeling just a wee bit surly at the insistence of using the Latin name for such common creatures as spadefoot toads, I said my piece: “Yuh know Erika, most experts have split the *Scaphiopus* genus into *Spea*.”

“That’s a bunch of bs, Roger. Those guys don’t know what they’re talking about!”

“Oh yeah? Who made you the big sheriff of the systematics of spadefoot toads? I don’t see your name on any papers....”

“Is your signature on my paycheck? It *must* be, since you are telling me what to do! The Park Service says I’m supposed to use *Scaphiopus*, so on my study, spadefoots are *Scaphiopus*. Is that ok with you?”

“Ok, ok, ok! But is it ‘spadefoots,’ or ‘spadefeat?’ ”

My question was ignored, and the vehicle began to slowly roll forward. Frieda once again cried out in pain from the tenth of a G caused by accelerating to ten miles an hour. I could no longer see the data sheet, and groused about it. Erika turned the dome light on, and continued with the cruise. I had my long-distance, custom-made road cruising glasses on, rendering my eyes all-powerful for glimpsing blind snakes on pavement at 60 miles per hour. But these were worthless for filling in data sheets. So each time the gravity-challenged foreigner occupying my seat called out some worthless piece of fuzzy vermin, on would go the dome light, off would go my glasses, and totally useless to this road cruise would I become. Each time my eyes would go off the road, a pair of national shrines were rendered useless. And the dome light being on *had* to be a distraction to the other participants as well. For all I knew, each time I was entering some *stupid* rabbit to the sheet, we could be virtually hydroplaning on milksnake guts. A total mutiny, coupled with a triple murder, seemed the only way out.

“Yah, I shee der schnake!” And yes, I saw der schnake too! Once again, Erika rolled fifty feet beyond it, and once again came the cries of pain from Frieda. Erika hoped out of the Explorer to run back for the snake. I wanted to do the same, but realized I didn’t have a clue as to how to get out of the back seat! But I remained calm and cool, (which is my trademark), and began to pleasantly communicate thoughts and ideas to my fellow passengers.

“I’M TRAPPED LIKE A FILTHY RAT BACK HERE! Let me out, *dammit!* Where’s my \$%^&\$# can opener? I’m going to *cut* my way out of this tub, I SWEAR TO GOD I WILL!” When threatening speech patterns did no good, I began kicking the seat in front of me in earnest. One wildly placed tennis shoe connected with the lever at the bottom of the seat, and it dutifully cocked forward. I was out in a flash and at Erika’s side in no time flat.

The snake in question turned out to be a Sonoran gopher-snake (*Pituophis catenifer affinis*). Of course, it wasn’t enough that we found this cool snake of the southwestern deserts; we had to spend the next half-hour of our lives processing it. We

tubed it, measured it, probed it, fondled it, and became intimately familiar with it. Whilst I was taking down the data, Frieda and Fritz saw fit to join us just in time for the next explosive exchange between Erika and me.

“No Roger, you *can’t* just write ‘gophersnake’ down on the data sheet! It’s *Pituophis melanoleucus affinis*, *not* ‘gopher-snake’!”

“C’mon Erika! Everybody knows if you see a gophersnake in these parts, it’s a Sonoran. You’re making this unnecessarily difficult for both yourself and me!”

But, no, no, it was *all* explained to me proper. If I were to put “gophersnake” down on the data sheet, the creeks would rise, and God would smite all herp sciences with plagues legion in number. All drawbridges would rise from their moats, alarms would sound, and fat ladies around the world would break into song. It is amazing what consequences a simple common name for a snake can carry. It was also amazing that I didn’t know how to spell “*melanoleucus*,” and the great lengths I would go to in hiding this fact. Against all odds, I fired one more parting shot in a feeble effort to put the Norse herp queen in her place.

“Yuh know,” I growled in contemptuous fashion, “some experts regard the species name for Sonoran gophersnakes to be *catenifer*. How about that, Ms. Snooty?”

“That’s a bunch of bs, and you know it Roger!”

“Oh, so now you’re the big systematics sheriff for the gophersnake clade as well?”

“This is my study! And for my study, it’s *melanoleucus*! Is that okay with you?”

“Yes ma’am, totally okay dude-ess. If you want *melanoleucus*, you *get* *melanoleucus*.” (It wouldn’t have mattered—I couldn’t have spelled “*catenifer*” correctly to save my life either.)

As soon as I was finished with the entry, Erika checked the data sheet. “That’s not how to spell *melanoleucus* Roger! Here’s how to spell it . . .”

“I don’t care how you spell *melanoleucus*, this is how *I* spell *melanoleucus*!”

It was at this point that Fritz stepped in to save the night. “I know how to schpell *melanoleucus*.”

While I as an American was ecstatic to learn this piece of trivia, the perceived haughtiness displayed by my European counterpart was less than appreciated. Perhaps that is why my actions were a bit abrupt.

“**GOOD!** You just got yourself a set of data sheets pal!” With that, I slapped the whole mess, clipboard and all, against the Albanian’s chest. The abrupt action knocked the wind out of him for a few minutes, but the small lesson in American civility that he learned must have made it worth the pain of a few broken ribs.

For the remainder of the ride, I was free of the tyranny of taking data. It was with great delight that I joined Frieda in

announcing every rat, rabbit, toad, stinkbug, and other insignificant animal pest encountered. Fritz dutifully logged it all in without complaint. What a guy!

And then came the saving moment for the night. I happened to see the form of a dead snake lying on the far west side of the white line, and made my announcement. Erika did the usual 50-foot stop, accompanied by the usual vocal misery of our hapless shotgunner. We backed up to the snake, which turned out to be a four-foot-long striped whipsnake (*Masticophis taeniatus*). Fritz began hissing something in a foreign language to Frieda—he was clearly mad at her for allowing the DOR to escape her notice.

The next thing I knew, I was behind the wheel. Erika hoped in the back seat, and took a dose of her own prolific note-infested medicine. Not that there was much for her to write down. Mile after endless mile of pavement unraveled before us, yielding nothing but asphalt. All creatures great and small knew that I was now driving, and stayed off the road just to aggravate me. The speedometer gradually indicated the results of an impatient and lead-footed herper. Under Erika’s command, the needle had hovered at ten miles per hour. Now, it began a steady climb into more respectable digits. Twenty became thirty, and thirty became forty. Just when forty was climbing towards fifty, a small snake on the far right side of the road caught my eye.

“**SNAKE**,” our driver shouted. (This was hollered so that all other participants could prepare for what surely would follow.) While the shortcomings of American-made vehicles are well understood, it must be stated that there was nothing wrong with the brakes in our mighty Ford.

It was at this late point in the road cruise that my three passengers learned the proper braking techniques that go hand-in-glove with high speed road cruising. Their lack of preparedness for proper braking techniques immediately demonstrated itself. Frieda was launched from her moorings in the shotgun seat, (proof positive that no matter what the odds, G-forces *do* overcome gravity), and collided with both dashboard and windshield simultaneously. Barely noticed over the howls of pain that accompanied this action were the pair of identical thuds that occurred when the two participants in the back seat were flattened against the two pillars that served as front seats. (It is hoped that an important lesson in the usage of seatbelts was learned by all here.)

When engaged in the fine art of road cruising, it is imperative that the driver retains control not only over the vehicle, but over the passengers as well. Hence, the first issue to deal with was the blubbering Albanian in the seat to my right. In abrupt fashion, she was informed that this was a snake hunt. There was to be no crying allowed on a snake hunt, but suffering in silence was allowable. It was hard for the poor woman to accept these terms, but in the end, she reduced her loud screaming to barely audible whimpers.

Having dealt with this issue, there was still the matter of a snake lying somewhere behind the truck. Under normal circumstances, my shotgun would have been out the door and on it like scum on a pond before the vehicle had even stopped.

Under these circumstances, getting a beached whale back into the surf would have been an easier process. With this in mind, it became apparent that it was up to me to corral the snake—only I couldn't find the handle to the door! Talk about excitement! My language grew salty, and curses scorched the brand new interior. Whilst denouncing the clever engineer who had designed disappearing door handles, it also became apparent that I had left my flashlight in the back seat. This was very amateurish of me, and heaped more burning embers into the fire of my now staccato speech patterns.

"Flashlight! Where's my flashlight? I need a flashlight! I need a flashlight **NOW!** Why is one *not* in my hands?"

With these words, a flashlight arched its way over the top of the back seat, and landed squarely in my lap—scoring a "direct hit" in the process. "Whoof," uttered I. The pain was tremendous, but I abided by my own rules, and didn't cry. A few more fumbling grabs for the door handle transpired, finally culminating in a successful door opening procedure.

And then the geek was out, and rounding the rear corner of the mighty Ford in a fast, albeit slightly hunched-over wind sprint. The beam of flashlight swept erratically across the black asphalt, finally zeroing on the form of a smallish snake that was slowly sliding towards the side of the road. The geek was on it in a heartbeat, loomed above it, and shone his light directly down upon it. And then.....**AND THEN**.....

"YYYYYYYYEEEEEEEEEEEESSSSSS! Yesyesyes! YEEEESSSSSS! Yessir! YEEEEEEEESSSSSS!"

The silence of the Painted Desert was assailed with various versions of a maniacal geek turned yes-man. Yes's echoed off buttes, or traveled unobstructed towards Holbrook, Gallup, and Saint Johns. It is rumored that the yes's were heard clean to Flagstaff and beyond. Yes after thunderous yes issued from the geek's gullet, drowning out the crickets and calling spadefoot toads. The entire audible world for miles around the epicenter of the vocal vortex became overwhelmed by enthusiastic yes's.

Yes. We had found Arizona's version of the Utah milksnake. End of the game, and we had won!

Epilogue

Photos, as well as other particulars of the milksnakes found on 28–29 August 1998 are found in Figures 1 and 2. These two snakes were later radio-tracked, but that is Erika's story.

Other adventures followed during my stay at Petrified Forest. We had some fun and games with pit trapping and toe clipping hapless sagebrush lizards (*Sceloporus graciosus*.) On the evening of August 30, a Europeanless road cruise yielded my first ever live Hopi rattlesnake (*Crotalus viridis nuntius*), a gophersnake (*Pituophis catenifer affinis*), and a hatchling spotted nightsnake (*Hypsiglena torquata*). A mini drama of sorts unfolded with the nightsnake. It was a tiny little thing, and when we ran back from the truck to retrieve it, it was nowhere to be found. It was then pointed out by one alert member of the road cruise to the other that this same other was standing on top of it! ("Oh, I didn't hurt it—did I?" "Naw,

they *love* it when something 2,000 times their weight crushes them to the asphalt. You probably did it a favor!") Miraculously, the little snake did seem unharmed.

On 31 August, a morning adventure to the park's boneyard yielded several collared lizards and yet another Hopi rattlesnake. The Hopi was found under an old railroad tie, and posed obligingly for a photo shoot (see Figure 3).

This author would be remiss in his duties to Petrified Forest National Park if he didn't fill in the reader on a few things. In this crazy, mixed up world of ours, it is inconceivable to this author that anyone would even *think* of collecting *anything* from our country's National Parks. They were established to protect *everything* within their boundaries, and anyone who would even *think* of taking something from them should be summarily executed.

In order to further discourage any reader who may contemplate unethical activities in our National Parks, a few other points about Petrified Forest are in order. It is by far the most *watched* park in Arizona. As there has been a great deal of collecting petrified wood in the past, the ranger staff has been beefed up accordingly. Nearly every pullout is under the watchful eye of the staff, as is the roadway that winds its way throughout the park. Rangers also patrol the more remote areas of the park on horseback—often appearing from out of nowhere when least expected. If this isn't enough to discourage the stalwart poacher, the rangers throw everybody out of the park at sunset, and patrol the roads after dark.

At the present time, nine Utah milksnakes have been processed at the park. Of these, all nine have been found after dark! The chances of finding a milksnake crawling about during the daylight hours when the park is open appear astronomically thin.

Having said all that, Petrified Forest National Park is a natural wonder that should be enjoyed by all who are in the vicinity. There is much to see and do for the herper who has the capacity to show a little restraint. The thrill of seeing brightly colored collared lizards basking atop of a rust-hued chunk of downed prehistoric tree is worth the price of admission in itself. This is all the more true if one has a good camera handy to capture anything that meets one's fancy.

There is plenty of land outside the park that has yielded the elusive little milksnakes, if that is the goal of the adventure. They have popped up in grassland situations from southeast Arizona northward to the large swath of grasslands that cut throughout the north-central part of the state. See Figure 4 for ideal habitat, and Figure 5 for a photo of the progeny of a gravid female collected near the town of Holbrook.

If any out-of-staters wish to try their hand at collecting the species, the legal way to do so is to obtain a hunting license for the purpose. In Arizona, a hunting license is required even to just carry collecting equipment such as tongs or a snake hook. The current collecting/possession limit for milksnakes is two per person. If anyone who reads this article is successful in their efforts to capture or collect one, this author would be grateful if locality info could be passed on to me. I will see to

it that this important information falls into the right hands.

Finally, it is questionable that *Lampropeltis triangulum taylori* is truly Arizona's rarest snake any longer. With ever growing frequency, northern Arizona is being assailed by wildlife biologists who are finding more and more of them in different places. The original ten mentioned by Dr. Lowe in 1988 has possibly grown to around 30 individuals by now. It is unfortunate that an exact total number is not possible to obtain.

This author has spent a lifetime in the field seeking and finding our crawly friends. The hope for something new, something different, something rare, has always been the driving force in my life. The thrill of finding a Utah milksnake on August 29 of 1999 will always rank in the top ten "highs" of my life. It doesn't matter what has happened before, nor does it matter what will happen after. Looking down on the pavement and seeing that particular snake on that particular night is the stuff of my dreams.

Bull. Chicago Herp. Soc. 35(3):49, 2000

Erratum: A Case of Parthenogenesis in the Plains Garter Snake, *Thamnophis radix*

John C. Murphy and Russell M. Curry

Please note the following replacement for the paragraph at the top of column 2 on page 17 of "A Case of Parthenogenesis in the Plains Garter Snake, *Thamnophis radix*" by John C. Murphy and Russell M. Curry, which appeared in the *Bulletin of the Chicago Herpetological Society* 35(2):17-19, 2000.

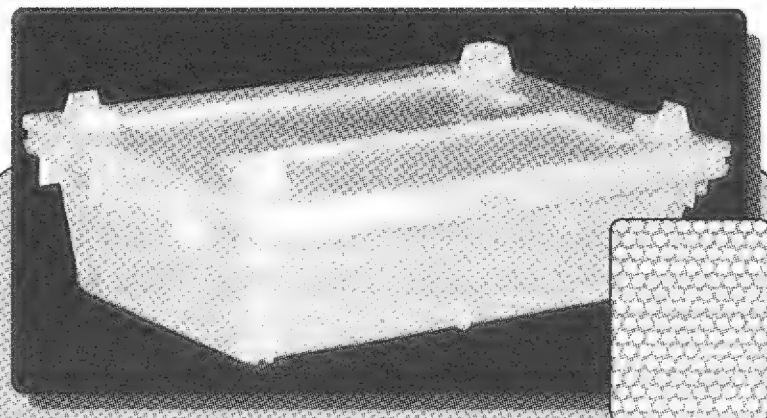
The mechanism to explain this phenomenon as given by Schuett et al. (1997) and Dubach et al. (1997) is automictic parthenogenesis. Ova are produced by meiosis, however during meiosis II the secondary polar body fuses with the nucleus of

the ovum in the absence of sperm. This allows female snakes to produce male offspring asexually. Snakes have a ZW sex chromosome system (females are ZW and males are ZZ). Thus, a secondary oocyte with a Z-chromosome in the nucleus and a Z-chromosome in the polar body will produce a male. It is hypothetically possible to produce a female if a secondary polar body carrying a W-chromosome should fuse with an oocyte with a Z-chromosome, although the probability of such an occurrence is low.

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**Book Review: *Research and Management Techniques for the Conservation of Sea Turtles*
edited by Karen Eckert, Karen Bjorndal, F. Alberto Abreu-Grobois and Marydele Donnelly
1999. IUCN/SSC Marine Turtle Specialist Group Publication No. 4. 235 pp. ISBN 2-8317-0364-6**

**Kathy Bricker, C.F.R.E.
Director of Donor Relations
Center for Marine Conservation
1725 De Sales Street, NW, Suite 600
Washington, DC 20036**

What single thing most helped sea turtles in the 1990s? Along with reduced direct slaughter and fewer accidental deaths in fishing trawls, historians may well point to this collaborative book. Packed with an extraordinary amount of information, this must-have manual will aid researchers, officials, and conservationists who study, manage or protect sea turtles. In addition, many chapters will benefit workers with other reptiles and amphibians, especially in developing countries. Not being a sea turtle biologist myself, and figuring that few CHS readers are, I reviewed this manual looking for concepts applicable to other turtles, reptiles and amphibians with vulnerable populations.

The "Overview" section (5 chapters) reminds readers that all seven species of sea turtles are listed on the World Conservation Union (IUCN) Red List of Threatened Animals. Four are considered Endangered, and two are rated as Critically Endangered, existing precariously at a fraction of known historic levels.

Because "tentacles of the global market are everywhere, resulting in rampant resource depletion," the authors exhort researchers to weigh the likely benefits of their work against risks to the population under study and to make sure that scientific research focuses on critical conservation issues. Research should be designed only after a thorough literature survey, with utmost caution and respect for individual turtles. The book urges adequate training and extreme care especially with tagging operations and drawing blood, two risky research techniques.

One Overview chapter cautions that conservation interventions can be ineffective without knowledge. For example, because sea turtle sex depends on the temperature of incubation, the earlier conservation practice of moving eggs to incubation boxes may have skewed sex ratios in a harmful way. Yet the authors recognize that the "mere accumulation of information is insufficient to conservation," and arm activists with arguments and ideas for community-based approaches to solve root problems.

Throughout, the book's clear descriptions of standards, guidelines and methodology will greatly aid the collection of data needed to promote responsible and effective conservation measures. The 60 authors cite extensive literature references, while at the same time carefully documenting referrals to other papers within this manual.

The single chapter on "Taxonomy and Species Identification" amply illustrates field identification by scale pattern, size, silhouette, tracks, and even beach sand disturbance dur-

ing nesting. The "Population and Habitat Assessment" section (7 chapters) covers how to census turtles in nesting and non-nesting habitats with aerial and ground surveys, how to conduct mark-and-recapture studies, and how to establish a statistically rigorous record of nesting activity to monitor population status over the long term. The chapter on "Estimating Population Size" is worth the entire book for its superb explanation of bias and precision and how to correct for errors of each type.

The 15 chapters on "Data Collection and Methods" detail how to safely catch, handle and tag turtles; measure turtles and their eggs; calculate clutch size and hatching success; mark nests; calibrate field equipment; determine the sex of hatchlings; measure sea turtle growth over time; analyze diet; operate a salvage network to retrieve dead turtles for necropsy; safely transport live animals to authorized facilities for rehabilitation; and conduct many other field techniques.

The thoughtful chapter on database building also applies to other species of worldwide distribution. The authors present custodial, organizational and validation issues, while promoting standard methodology and terminology to permit the exchange and comparison of data across time and space. Any useful database must contain updated monitoring information on breeding stocks, ensure long-term data storage, permit rapid transfer of information to managers, and accommodate long time-series parameters that enable the study of population dynamics. For such a system to work, data users must give adequate credit to data gatherers, recognizing intellectual property rights.

An inspired chapter, also broadly applicable, covers personal interviews and market surveys. The authors advise how to secure a good introduction, avoid and identify misunderstandings and discrepancies, record information from interviews, and interpret the information without bias. This chapter includes a superb list of questions to consider in survey design, and adds an ethical caution that "Information . . . has often been used against the very people who provided [it]. . . . The result is often greater distrust of interviewers and researchers who may follow."

The section on "Reducing Threats" (6 chapters), cautions against moving eggs in advance of tropical storms because nest locations on the beach that seem prone to risk may actually provide a fitness advantage to developing hatchlings. Likewise, although predator control may seem needed, killing native predators actually may harm the ecosystem and thus the turtles.

However, we should do everything possible to stop human-

based threats, including a ban of heavy machinery on nesting beaches and setbacks of 50 meters from mean high water for building. One very practical chapter presents detailed, technical monitoring and management suggestions on beach lighting.

The authors recommend Integrated Coastal Zone Management to protect high water clarity needed by sea grasses in foraging habitats, through controls on sediment runoff, dumping of dredge spoils and sewage effluent. This section also addresses anchors, oil pollution, dynamite fishing, chemical fishing and incidental catch in fishing gear. Until Turtle Excluder Devices were required in trawl nets in the mid 1990s, about 5,500 to 55,000 juveniles were killed in U.S. coastal waters every year. Around the world, 150,000 turtles continue to die each year in shrimp trawls, due to poor World Trade Organization decisions.

One chapter urges program managers to live and participate actively in local communities, so they can identify gaps in the knowledge of local people and fill them through publicity and education. Conservation facilitators must make a long-term commitment to “establish a partnership of mutual respect and understanding with the citizenry, for they must understand the capacity, limitations, needs and desires of local inhabitants. This requires social integration and cultural sensitivity. Yet, facilitators must not beguile themselves into thinking that they are natives. . . .”

While the authors urge linking sea turtle conservation to income from tourism, they caution activists not to regard ecotourism as a quick fix. “Nesting beaches are being destroyed at unprecedented rates to accommodate the fastest growing industry in the world: tourism.” Economic exploitation from the outside, where only a small part of the profits effectively reach the communities, should be avoided.

The chapter on eggs and hatchlings concludes that collecting and reburying eggs should be considered only as a last resort, recommending hatcheries only if egg mortality in situ would be 100%. This chapter explains that sometimes advocates mistakenly promote hatcheries over programs that are more effective but less attractive politically. Until more information is available, the safest course of action is to protect natural nesting beaches as much as possible.

Where egg relocation is needed, the authors offer methods for collecting and reburying eggs, including specific tips like minimizing sand collected with the eggs because it can abrade the shells and reduce hatching success. The manual urges immediate release after hatching to avoid struggles and swim frenzies that use up much of the yolk sac that hatchlings need in the open ocean. Managers also should beware that improper methods of release can attract predators to “feeding stations,” causing higher than normal mortality.

Another chapter covers the history of sea turtle ranching and farming, explaining that taking animals or eggs from the wild to raise in captivity requires advanced technical knowledge and has never been economically successful.

The “Husbandry, Veterinary Care, and Necropsy” section (4 chapters) describes how to prepare and preserve biopsy and necropsy samples for sexing, genetic tracing, reproductive studies, infectious disease determination, parasite load analysis, and forensics study. A long chapter deals with rehabilitating wounded and sick turtles, including transport, evaluation, diagnosis, and treatment. However, the authors omit the issue of plastics ingestion that may cause intestinal blockage. Nor do they cover the tumor-producing fibropapilloma disease. More elaboration and detail would have been desirable on these and other topics if space had not been limited. Too, the manual would benefit from an index.

The “Legislation and Enforcement” section (4 chapters) points out that many countries regard sea turtles as both fisheries and wildlife resources. The authors urge public hearings to shape all regulations and help for communities to meet their economic needs by means other than killing sea turtles. Two measures must be non-negotiable: full protection of adult sea turtles and minimum harvest of eggs. Managers should at least codify a date after which harvest will be illegal, to encourage stakeholders to develop conservation techniques together. The authors urge conservation advocates to build arguments in economic terms to sway politicians and local people rather than citing ethics, aesthetics, or emotion.

Closing chapters describe regional collaborations of inter-governmental programs around the world, along with international conservation treaties such as the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) and its guidelines on ranching, regional agreements such as Cartagena Convention for the Wider Caribbean region, and other conservation instruments such as the International Convention for the Prevention of Pollution from Ships.

Unfortunately, this discussion makes clear that international sea turtle conservation is not even as advanced as the research. This book will give a big and needed boost to both.

Buy *Research and Management Techniques for the Conservation of Sea* by sending \$25 to the Marine Turtle Specialist Group, Suite 600, 1725 DeSales Street, NW, Washington, DC 20036. Copies may also be ordered using VISA or MasterCard via E-mail to mdonnelly@dccmc.org. Please provide a complete mailing address. Additional, tax-deductible donations would help to translate and distribute the manual in Spanish and French and provide small grants to non-governmental groups conserving sea turtles in developing nations.

HerPET-POURRI

by Ellin Beltz

Chinese fossil a composite

Xu Xing, a Beijing paleontologist and scholar, claims that a fossil declared to be a missing link between dinosaurs and birds is actually put together from two different animals. This does not affect the theory that birds are living descendants of dinosaurs—it merely means that this fossil was a fraud. Even *National Geographic* will publish in March 2000 that CT scans of the fossils seem to support Dr. Xu's denouncement. The current owner of the *Archaeoraptor* specimen which may have had the tail of some other contemporary animal grafted onto it promises to return it to China as soon as he has finished writing an article for *Nature* about it. He says that even ignoring the tail, the fossil is significant. [*San Francisco Chronicle*, January 22, 2000, from Bradford Norman]

Back in the salamander, again

China Daily reports that the Xinjian salamander (*Ranodon sibiricus*, Kessler) of the family Hynobidae has been found again in the area where it was originally reported 123 years ago. It lives in 6°C brooks which run out of ice-capped mountains at elevations of nearly 3,000 meters above sea level in an area so remote it took the researcher several weeks to arrive and get started. Then she found nearly 600 individuals hiding under rocks or in humid sand during the day. At night, they crawl out and wander up to four meters away, eating moths, beetles and small insects. Winter snows up to a half-meter cover the area; the salamanders hibernate for six months under rocks until the arrival of warmer weather. Researchers have been captive breeding these animals in situ since 1991 and have released more than 200 into another valley near the source population. [December 9, 1999, from Wes and Kim von Papineäu]

I-sang Newton's laws of filksinging

From Bradford Norman [*Voices of Humboldt County*, July 1999] comes the text of what is called a "filk-song"—new words for old music. In this case the music is "Tonight" from *West Side Story* by Leonard Bernstein, the words were written by Kay Rudin during an amphibian trip several years ago: *Two newts, two newts / we only found two newts / but they / ran away. Lift up a rock / and take a gander / we found a salamander / but it ran away.* Which reminds me that years ago, my daughter Eloise and I wrote one for our pet garter snake "Sidney" to the tune of Greensleeves: *What snake is this, who lays in grass on minnows fat is feasting? Who sheds his skin and with a grin, devours another fat fish-y? Snake, snake, who brings me joy; more interesting than any toy. Snake, snake, my heart's delight . . . And who, but my snake-y Sidney?* Horrid punsters (like Roger Repp!) are always invited to provide second stanzas for filksongs.

Time to hop to it

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0180. U.S. contributions are deductible (but see your particular tax advisor for all details). \$25.00 a year gets you the journal which is often quoted in this column. Read the rest of it. Join DAPTF today.

Websites from members

- For information on box turtle conservation and legislation in Pennsylvania, contact Cheryl Lechtanski at <paboxies@hotmail.com> and Bill Belzer at <billbelzer@hotmail.com>. Check out <<http://www.mckeever.org/>> for information on Bill Belzer's work on box turtles. [From James Harding]
- "I have been meaning to give you the URL to Robert Sprackland's new website—the Virtual Natural History Museum: <<http://curator.org/index.htm>>." Lori King-Nava (who has nothing else on her desk now that ReptileFest is only two months away!)
- The Oregon Herpetological Society goes online <http://www.efn.org/~ore_herp/> from Bill Myers. E-mail articles to <jennysjungle@excite.com> or by mail to Editor—OHS c/o Wistec Building, 2300 Leo Harris Parkway, Eugene, OR 97440. Their meetings are the third Thursday of every month except December.
- EuroTurtle <www.ex.ac.uk/telematics/EuroTurtle/> has been selected as one of Europe's top six environmental websites. Watch Mediterranean sea turtles and learn about conservation of these ancient and special animals. [From Wes and Kim von Papineäu]
- Watch a sea turtle swim across the Pacific Ocean at <www.baja-tortugas.org> by clicking on "satellite tracking" on the left side of their website. A turtle captured in Baja was outfitted with a radio transmitter. She's been swimming along and was near Hawaii on January 12 when *Business Wire* reported on her progress. [From Wes and Kim von Papineäu]
- Visit <<http://www.earthwatch.org>> for more information on volunteer vacations for science. They sent a press release, too, but it was too painfully written to quote. The website is more interesting anyway.

Sad news

Mike Dloogatch writes "We just had Tom Taylor's [Tempe AZ] renewal notice returned with a note from his sister that he died 11/27/99. I may have met him at one time, but I didn't really know him. I do know that he had been a member for nearly 10 years and that he was a fairly frequent contributor to HerPET-POURRI. I'm just letting you know in case you want to say something in your column." All I can say is I wish I had heard earlier. I had no idea why his letters stopped coming; sometimes contributors take a break for a while. And I have been very involved with my own recovery of late and perhaps not staying in touch as well as I should. I know that Tom was very involved with Arizona Herpetology and the organizations out there—he will be missed by many.

Are there four sexes of tuatara?

The tuatara curator at Invercargill, New Zealand, has proposed that there are actually four sexes in individuals of an ancient lineage which extends back to the Mesozoic era. While captive breeders have been determining baby tuataras' sex by temperature as is common in reptiles; researchers have found differences in DNA from males and females, leading the curator to propose that both genetics and temperature play a role in tuatara sex determination. Since tuataras lack copulatory organs, it takes up to eight years to sex one and some even seem to develop later than that. The curator said they might be making a big mistake forcing eggs into certain sexes, perhaps even creating "A whole lot of gay tuatara." They will be monitoring their 64 captive-bred tuataras for several years to come. [*Moko*, the journal of the New Zealand Herpetological Society, Spring 1999 (northern hemisphere winter) from Warwick Brown <warwick.brown@clear.net.nz>] Also in this issue was a plea for cooperation from anyone with information about the smuggling of New Zealand species, particularly geckos. Contact Colin Hitchcock of the New Zealand Wildlife Enforcement Group, Box 29, Auckland or <web@iconz.co.nz>. The article points out that many so called "captive-bred" animals are actually wild-caught. It has been pointed out over the years that c.b. animals and wild-caught animals have very different parasite loads and that a fecal exam will often tell the source of the animal directly.

Do they drive Cadillacs, too?

- The Washington D.C. animal control center received a call from a woman reporting a snake beneath her dresser. Responding to the call, an officer discovered that "the snake in question was an electric cable." [*Washington Post*, December 16, 1999, from Wes von Papineau]
- "A man who scared his wife to death with a rubber snake has been jailed for three years. The 73-year-old knew his wife had a weak heart and wanted the insurance money. . . ." reports *The Sunday Mail* (Scotland U.K). [From Wes and Kim von Papineau]

Have we reached critical mass?

Less than three months into our new millennium, an alarming number of reports seem to indicate a sudden increase in loss of wildlife. The following are all directly from *GreenLines*, the electronic journal of Defenders of Wildlife. And, none of these stories were sent in by contributors, perhaps showing that they "didn't make the wires."

- A "sharp increase" in sea turtle deaths has prompted the NMFS to override state management and temporarily ban large mesh gill nets in parts of Pamlico Sound, North Carolina. . . . Pressure is building for "further restrictions on commercial fishing" as sea turtles deaths have increased "193 over last year" to a total of 551. [December 27, 1999]
- A widespread decline in butterflies in and around California's Sacramento Valley has entomologists very worried. . . . Even very common species were "almost absent" and the "overall trend was way, way, down. . . ." The collapse included many species from common to rare and sharp declines

were also noticed in monarchs whose wintering numbers were less than a quarter of normal. [December 27, 1999]

- As Colorado River "shareholders" met at Caesar's Palace in Las Vegas . . . the Southern Nevada Water Authority said "the larger effort to permanently allocate water for the environment [is] unrealistic." [December 27, 1999]
- Proposals by the National Marine Fisheries Service and Congress would ban long-line fishing in large areas of the Gulf of Mexico and South Atlantic in an effort to conserve rapidly declining populations of highly migratory species, swordfish, billfish, tuna and shark. Both closures would have significant economic impacts and represent the "first major effort" to protect the species "which are in danger worldwide." [January 4, 2000]
- Researchers have found that key components of the marine food chain, plankton and krill, may be breaking down due to the hole in the ozone layer over Antarctica, says Japan's *Asahi Shimbun*. Population of krill, which eat plankton and are a food staple for whales and penguins, are now a quarter of what they were in the mid-1980s. [January 4, 2000]
- Costumed activists and a giant inflatable sea turtle will lead a march on Friday, January 7, at the Texas state Capitol in Austin. The rally, organized by the Sea Turtle Restoration Project, will call on Texas Governor George Bush to create a Kemp's Ridley Marine Reserve to protect critically endangered sea turtles. Last year, the Governor's last minute effort to enforce protective measures failed to stop the deaths of sea turtles from increasing to 450, with almost all dying during the shrimp fishing season. For more information contact <turtlesafe@igc.org>. [January 5, 2000]
- A study by the World Wide Fund for Nature found that in just the last five years the range of the Mexican prairie dog "has shrunk by more than half" As a keystone species in the Chihuahuan Desert ecosystem, concern is heightened because its disappearance would cause profound changes for many other species. The prairie dogs are important in maintaining open grasslands and to other animals who use their burrows as habitat. The primary threat is loss of habitat as land is converted to agriculture, "mainly for potatoes." [January 7, 2000]
- Even very low levels of fertilizers that the Environmental Protection Agency [EPA] finds "safe for human drinking water," can be deadly to "some protected and endangered amphibians" The fertilizers have a dual affect of killing the frogs and toads directly or indirectly by fostering algal growth beneficial to "parasitic flatworms called trematodes," which are known to cause deformities. The Oregon State study found that amphibians were adversely affected by nitrite levels "well below those that the EPA considers safe for warm water fish." Nitrite levels can be concentrated in shoreline areas containing lots of organic matter or subject to runoff from livestock manure. [January 7, 2000]
- The Japanese are now questioning whaling, but only after finding out that whale meat is heavily contaminated with heavy metals and other chemicals. . . . The oceans have become so

polluted that eating even small amounts of meat from marine mammals can cause significant health problems or lead to birth defects. Research has found that whales and dolphins can accumulate the toxic chemicals at up to 70,000 times the levels found in the ocean. [January 12, 2000]

- A new report from Conservation International warns that “25 species of apes, monkeys, lemurs and other primates” are critically endangered and on “the brink of a major extinction crisis.” The main threats are familiar and include “destruction of tropical habitat,” hunting, the “pet trade,” and use in “bio-medical research.” [January 12, 2000]

- The Atlantic States Marine Fisheries Commission has reduced horseshoe crab catch by 25 percent along the entire Atlantic seaboard. . . . The cut came after demand from the booming conch and eel fishery had increased the catch fourfold from 1993 to 1996. The crab, an ancient species more closely related to spiders, forms an essential food source for migratory birds and sea turtles. [January 14, 2000]

- The long-term ecological consequences of a ruptured pipe that spilled 69,000 gallons of oil beneath pond ice in Pennsylvania’s John Heinz National Wildlife Refuge, remain unclear. . . . Clean-up operations further damaged some habitat, but a full assessment on the harm to wildlife, including the state listed red-bellied turtle and southern leopard frog, will have to wait until spring or even longer. [January 14, 2000]

- The longline fishing fleet is now taking up operations in Southern and Baja California after driving Atlantic swordfish “to the brink of extinction,” and decimating sea turtles in Hawaiian waters. Marine conservation groups contend that commercial longline fishing activities, which account for 98 percent of commercial fish landings, destroy sustainable local fisheries, have reduced marlin and sailfish by up to 80 percent and are responsible for drowning “large numbers of seabirds, sea turtles, and marine mammals.” [January 14, 2000]

- Overflow from a cyanide holding pond at a Romanian gold mine, has “destroyed virtually all aquatic life” in the Tisa River and contaminated the Danube in what is described as the “biggest environmental catastrophe since Chernobyl” Hungarian officials said that heavy metals also in the spill “will poison the whole food chain for years to come.”

- There’s more than would fit in this whole *Bulletin*. For more information, visit their website at: <<http://www.defenders.org/grnhome.html>> [February 15, 2000]

- And *EcoNews* quotes biologist E. O. Wilson stating that the world loses a plant or animal species every 21 minutes; approximately 27,000 species annually.

- World population is over six billion of whom half are younger than I am. See world demographics calculated for your age and place at <<http://www.popexpo.net>>. Click on “In English” then on the swirling picture to enter. You then put in your age (or anyone’s age—try your parents or kids) to find out how you fit into our ever growing family of man.

Thanks to everyone who contributed this month and to Wes von Papineau, Emily Forcade, Bradford Norman (I love *EcoNews*), Ardis Allen, Philip Drajeske, Ray Novotny, Bill Burnett (and “Mom”), and Ernie Liner for things they sent that we already used or that I couldn’t figure out how to describe in words. **You can contribute too.** Send whole sheets of newspaper or magazine (clippings are too hard to unfold) and send to: Ellin Beltz, 1647 N. Clybourn Avenue, Chicago, IL 60614-5507. Be sure your name is on each piece. It gets to be quite a paper tornado in here some times!



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Unofficial Minutes of the CHS Board Meeting, February 11, 2000

The meeting was called to order by Jack Schoenfelder at 7:35 P.M. Board members Rich Crowley and Marcia Rybak were absent.

Officers' Reports

The minutes of the December Board of Director's meeting were accepted "as is" by the board and the January minutes were read, corrected and accepted.

The Treasurer's report was read and accepted. Gary Fogel reported that the current spate of membership renewals is providing extra income for the CHS but that this is only temporary. Gary also opined that much of the CHS income for the year will be dependent on ReptileFest.

Mike Dloogatch reported membership at 872, which included 19 new members.

Lori King reported that Publications Secretary Marcia Rybak is proceeding with the Amazon.com affiliation and is attempting to iron out potential problems.

Standing Committees

Shows: Jenny Vollman passed around a sign-up sheet for the Chicagoland Family Pet Show at Arlington Park Racecourse. This show will take place March 17-19. Jack Schoenfelder offered a brochure rack for ReptileFest flyers and Jenny agreed to consider it. Jenny also reported the Milwaukee Public Museum will be hosting their sixth annual "snake days" show on March 25-26 from 10:00 A.M. to 4:00 P.M. The CHS has been invited to help out. ReptileFest literature can be distributed at this show and Jim Kranz would like a mention of this show in the March *Bulletin*.

Raffle: Gary Kostka reported good results from the January raffle. Decorative one-of-a-kind items were most popular and there will be more of these at the March meeting. Lori King offered to donate a signed and numbered limited edition collection of Jurassic Park artwork. Some possibilities for the artwork were discussed such as a silent auction for the March meeting, or else holding these illustrations for the 2001 Midwest Symposium.

Library: The library is still at the Field Museum. Jeff Janovet will be the new librarian and has offered to help move the library.

ReptileFest: Ron Humbert encouraged everyone to register early. Six vendor tables have been sold and there have been inquiries from other vendors. Marcia Rybak has posted ReptileFest information on the web page. Permission was requested by a member of the Nova Scotia Herpetological Society to use the "today's purchase becomes tomorrow's responsibility" green iguana poster, which is displayed at ReptileFest, and which shows the tremendous growth of baby iguanas. Ron Humbert brought up the issue of inviting other herp societies to the Fest. The date for the next ReptileFest meeting remains tentative.

Old Business

Jack Schoenfelder presented a rough draft of what needs to be done to prepare for the March meeting at the CAS. Advertisements, E-mail messages, seating set-up, time schedule and the AV system all need to be addressed.

Lori King reported that Pat O'Brien, President of the Wildlife Protection Association of Australia, Inc., has determined that the Neiman Marcus saltwater crocodile promotion would be illegal to carry out in Northern Australia. Lori has written to Neiman Marcus in protest on behalf of the CHS but the store has not responded.

New Business

Mike Dloogatch reported that the Staten Island Herpetological Society had expressed interest in an exchange of publications with the CHS and passed around a sample of their newsletter. Mike moved to set up an exchange membership with the Staten Island Herp. Society. The motion passed unanimously.

Jack Schoenfelder reported on a bill (#1834) which could endanger animal ownership rights. Jack's information regarding the issue was scanty. Emily Forcade volunteered to search for the bill on the Internet.

Jack brought the very sad news that Chuck Keating, a member of the CHS and the Chicago Turtle Club had passed away; flowers were sent.

Marcia Rybak has sent a letter to the *New York Times* regarding their "Madonna the Iguana" article.

This year's Salamander Safari was tentatively scheduled for April 1. Ron Humbert will look into the availability of Camp Sagawau as a meeting place.

The next board meeting will take place March 24.

Round Table

Greg Brim requested a ReptileFest promotional video.

Steve Spitzer, who recently lost his mother, thanked everyone for the flowers and heartfelt condolences.

Ron Humbert asked about video taping the general meetings again and what the expense would be. Jenny reported that she has most of the old ones. Jack Schoenfelder produced a list of previous videos and will ask at the next general meeting if anyone would be interested in taping the meetings.

Gary Kostka thanked everyone for their help in getting the raffle items out of the storage room.

The meeting adjourned at 9:15 P.M.

Respectfully submitted by Recording Secretary Karen Bielski

Herpetology 2000

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

FEEDING BY MANDIBULAR RAKING

N. J. Kley and E. L. Brainerd [1999, Nature 402:369-370] have found that threadsnakes (family Leptotyphlopidae) have a unique feeding mechanism in which the tooth-bearing elements of the lower jaw rotate synchronously in and out of the mouth, dragging prey into the esophagus. This process, which the authors call "mandibular raking," is the only vertebrate feeding mechanism known in which prey is transported exclusively by movements of the lower jaw. An inverted dissecting microscope coupled to a high-speed video system was used to study ingestion and prey transport in the Texas blind snake, *Leptotyphlops dulcis*. This technique revealed that these snakes ingest prey by rotating the anterior, tooth-bearing portions of the lower jaw rami rapidly in and out of the mouth like a pair of swinging doors (often more than three times per second). Such rotation is made possible by the threadsnakes' triple-jointed lower jaw. The mechanism allows the snake to gobble its favorite food of ant larvae at a rate of nearly one per second. The authors speculate that the speed of mandibular raking may be related to the hazardous foraging strategy of threadsnakes. To obtain sufficient quantities of ant brood, the snakes must invade nests that are tenaciously defended by worker ants, which can seriously injure or even kill these small snakes. The authors also feel that mandibular raking is a uniquely derived feeding mechanism in the Leptotyphlopidae, and is unlikely to represent the primitive feeding mechanism in snakes.

AN ARGENTINE LIZARD COMMUNITY

L. A. Fitzgerald et al. [1999, J. Herpetology 33(4):526-535] note that individual species' phenologies can play an important role in the structure of lizard assemblages over short time scales. Data from a pitfall study carried out in the dry Chaco of Argentina were used to address the question of how species are distributed in their assemblage through time. Lizard activity and species richness were highest in the spring breeding season and declined in the cool months of the year. Variations in seasonal activity patterns and reproductive chronology resulted in significantly different distributions of species in every sample month. Not only did the species composition of the assemblage change through time, but the mean size of lizards and the proportions of males, females, and juveniles varied significantly for several species. Large lizards, regardless of species, disappeared from the assemblage during the cool, dry winter, while juveniles of the large species remained active year round. Adults of the smallest species were also active throughout the year. The authors propose an hypothesis based on thermoregulatory constraints of lizard body size to account for these patterns. An approach focusing on the energetics and physiological ecology of individual species would be fruitful in understanding the dynamics of fluctuating lizard communities.

SONORAN DESERT ANURANS

B. K. Sullivan and P. J. Fernandez [1999, Herpetologica 55(3):334-343] investigated breeding activity of a community of desert anurans at two sites in north-central Phoenix, Maricopa County, Arizona, during 1990-1995. Four species used these sites for breeding during the summer monsoon season: Colorado River toad, *Bufo alvarius*, Great Plains toad, *B. cognatus*, red-spotted toad, *B. punctatus*, and Couch's spadefoot toad, *Scaphiopus couchii*. Breeding activity was restricted primarily to 1990 and 1992 when significant rainfall events (> 25 mm of rainfall within 24 h) occurred repeatedly. No breeding (i.e., oviposition) occurred during 1991 or 1993, and only *S. couchii* bred on a single night in 1994 and *B. alvarius* on a single night in 1995. The authors undertook a skeleto-chronologic analysis of lines of arrested growth in digits and femurs with all four study species. Conservative estimates of age based on lines of arrested growth (LAGS) suggest that populations of all four taxa were relatively young (average age between two and four years) at both sites in 1994 and 1995. Growth, as indicated by the amount of bone deposited between LAGs, was greatest during the second year in *B. alvarius* and *B. cognatus*, but not *B. punctatus* or *S. couchii*. These results indicate rapid growth to maturity but do not support the notion that these anuran amphibians are long-lived organisms that exhibit an extended reproductive lifespan as adults in response to a highly variable, harsh desert environment.

THREE NEW SPECIES OF MINUTE MEXICAN SALAMANDERS

J. Hanken et al. [1999, Copeia (4):917-931] describe three new species of minute lungless salamanders of the Mexican genus *Thorius* (Plethodontidae) from montane forests in the Sierra Madre del Sur of Guerrero. Each species is distinguished from congeners by a combination of body size, external morphology, osteology, dental traits and proteins. *Thorius omiltemi* and *T. grandis* are among the largest species within the genus; standard length (SL) approaches or exceeds 30 mm in many adults. *Thorius infernalis* is much smaller (SL < 19 mm). Adult *T. grandis* display an extreme, unique sexual dimorphism involving the presence/absence of maxillary teeth and several related features of cranial osteology. Protein (allozyme) data for *T. omiltemi* and *T. grandis* reveal substantial levels of genetic differentiation relative to species in Veracruz, Puebla, and Oaxaca. Comparable genetic data are unavailable for *T. infernalis*. The three species collectively define a broad elevational range, from high elevation *T. omiltemi* and *T. grandis* (2200-2700 m and 2495-3360 m, respectively) to lower montane *T. infernalis* (1140 m). Description of several additional species of plethodontid salamanders from central montane Guerrero underscores the region's rich herpetological diversity, which includes many endemic species of both amphibians and reptiles.

LEOPARD TORTOISE DIETS

M. C. Mason et al. [1999, Chelonian Conservation and Biology 3(3):435-440] determined the natural diet of leopard tortoises (*Geochelone pardalis*) in Valley Bushveld in the Addo district of the Eastern Cape, South Africa, via visual observations of feeding and fecal analysis. They found that plants of 28 species were consumed by leopard tortoises. Six species comprise 75% of the diet with the geophyte *Albuca* sp. accounting for nearly a third of the diet. A preference index and two electivity indices were used to determine principal and preferred food items in relation to their occurrence in the habitat. The α_i value of Chesson (1978) was found to be the best in terms of interpretation. The grass *Cynodon dactylon* and the geophyte *Albuca* sp. were found to be the principal food species, while the exotic cactus *Opuntia ficus-indica* and the forb *Abutilon sonneratianum* were preferred. Non-plant items found in fecal samples included bones, insects and sand. Leopard tortoises may be considered as intermediate between generalist and specialist herbivores, feeding on many plant species as they occur in the environment, but showing some preferences.

DOES THE COBRA OBEY THE SNAKE CHARMER'S FLUTE?

Y. L. Werner [1999, Hamadryad 24(1):23-28] notes that because snakes lack an external ear opening and a tympanic membrane, it is often thought that they are deaf and that the Indian snake charmer's show of cobras swaying to the tune of a flute is fraudulent. However, physiological experiments have proven the snake's inner ear to be responsive to low-frequency airborne sound. To find out whether the snake charmer's cobras do respond to the music, observations were conducted in Agra and Singapore, including an experiment with the snake charmer visually hidden from his snakes. All observations indicated that the snakes did not respond to the music but to touch and vision. It is postulated that the traditional show may have originated with trained snakes and deteriorated later.

GOPHER TORTOISE GROWTH PATTERNS

M. J. Aresco and C. Guyer [1999, Herpetologica 55(4): 499-506] examined growth patterns of gopher tortoises, *Gopherus polyphemus*, in slash pine plantations using recapture data from a five-year period. Growth data were fitted to the von Bertalanffy and logistic asymptotic growth models. The former provided the best fit to the recapture data. Gopher tortoises grew more slowly than they did in any other published study and were estimated to require at least 20 years to attain sexual maturity. Intensive soil disturbance associated with site preparation and conversion to pine plantations in the 1970s destroyed much of the native ground cover. Therefore, slow growth, which resulted in delayed maturity, was attributed to poor forage quality of sparse ground cover vegetation, especially legume and nonlegume forbs. This study provides evidence that anthropogenic activities associated with historic widespread conversion of longleaf pine habitats to pine plantations may continue to impact current gopher tortoise populations.

TRACKING TEXAS HORNED LIZARDS

W. S. Fair and S. E. Henke [1999, J. Herpetology 33(4): 517-525] determined home ranges, movements, and survival rates of nine Texas horned lizards (*Phrynosoma cornutum*) by radio-telemetry in Duval County, Texas, during March through October 1994. Lizards were tracked five days each month from time of initial capture until hibernation and were located every 1-2.5 h from sunrise to sunset during these days. Nine of 16 radio-transmitted lizards were followed for ≥ 1 month of telemetry. Total area of use for horned lizards ranged from 291 to 14,690 m², and lizards exhibited considerable overlap between their respective areas. However, Texas horned lizards exhibited minimal overlap between their concurrent weekly home ranges, and their weekly home ranges appeared mobile. The average weekly home ranges of horned lizards in spring were small, peaked in June, and decreased in size each month until the lizards entered hibernation. Minimum daily movements averaged by month ranged from 58.9 m in June to 14.0 m in October. The minimum daily movements ranged from 0.0 to 246.7 m. Daily survival rate for Texas horned lizards was 99%. Assuming that survival of lizards was not altered by transmitters and that rates were constant over time, the annual survival rate ranged from 9% to 54%, based on a 245 d active period and calculated from lizards presumed dead (i.e., missing or dead) and confirmed dead, respectively.

THE GOLDEN TURTLE IN LAOS

R. J. Timmins and K. Khounboline [1999, Chelonian Conservation and Biology 3(3):441-447] describe the first evidence of *Cuora trifasciata* occurring in Laos, based on rural village interviews and captive animals. Locally known as the golden turtle (*tau kham*), its central and southern Lao distribution is probably restricted to the Annamite mountains bordering Vietnam. The species is under considerable threat from commercial exploitation, mostly through collection by local people who sell it to Vietnamese traders for approximately US\$ 100-500 per turtle. Several reports suggest that the species has declined substantially in the wild since commercial collection began. Its greatest protection in Laos is the presence of remote forest areas within its range, but international measures are required to secure its long-term future.

MIMICRY BY EGG-EATING SNAKES

B. A. Young et al. [1999, Hamadryad 24(1):29-38] compare visual and acoustic aspects of the defensive behavior of *Dasypeltis scabra* to those of seven sympatric vipers (*Bitis caudalis*, *Cerastes cerastes*, *C. gasperettii*, *C. vipera*, *Echis carinatus*, *E. coloratus* and *E. pyramidum*). Cluster analysis of quantitative aspects of the sound produced during scale rubbing reveals *Dasypeltis* to be more similar to *Cerastes* than to *Echis*. Cluster analysis of visual attributes proved less conclusive; *Dasypeltis* still clusters with *Cerastes*, but noncoded features suggest a stronger resemblance to *Echis*. The authors found little similarity between *Dasypeltis* and the specimens of *Bitis caudalis* they examined. Their results support the hypothesis that *Dasypeltis* is a Batesian mimic of both *Cerastes* and *Echis*.

AGGRESSIVE DISPLAYS IN CAROLINA ANOLES

T. A. Jenssen et al. [2000, *Copeia* (1):140-149] found that, unlike many polygynous species, females of the lizard *Anolis carolinensis* have the same repertoire of aggressive signals as males. These shared signals included three stereotyped head-bob display patterns (types A, B, and C) that were performed with no significant intersexual difference in amplitude displacement. However, the authors did find the following sexual dimorphisms in signal structure and use. Females (1) had a smaller average extendable throat fan (i.e., dewlap) area (0.22 cm²) than males (1.52 cm²), (2) never displayed when alone (0/h), whereas males frequently did (18/h), (3) displayed 10-fold less during consensual encounters (17/h) than males (168/h), (4) lacked the ritualized intermale combat scheme of circling, jaw-sparring, and jaw-locking, (5) infrequently used physical contact in consensual encounters, whereas males frequently did, and (6) did not employ a shifting use of signals with decreasing interfemale approach distance, whereas contesting males did by decreasing the frequency of C displays in favor of A and B displays, decreasing the use of the dewlap during displays, and decreasing the sequencing of displays in volleys. These results are in accord with field studies, which report limited interfemale territoriality (i.e., low consensual threat) and short display broadcast distances, whereas male territorial behavior is well developed (i.e., high consensual threat), with frequent long-distance displaying between consensuels. The authors suggest that these displays, which function in competitive interference, have been less directionally selected in females than in males because the outcomes of consensual contests carry fewer reproductive consequences for females than for males.

WONAMBI AND THE EARLY EVOLUTION OF SNAKES

J. D. Scanlon and M. S. Y. Lee [2000, *Nature* 403:416-420] report on new Australian fossil material of *Wonambi*, one of the last-surviving madtsoiid snakes. The Madtsoiidae were medium sized to gigantic snakes with a fossil record extending from the mid-Cretaceous to the Pleistocene, and spanning Europe, Africa, Madagascar, South America and Australia. This widely distributed group survived for about 90 million years (70% of known ophidian history), and potentially provides important insights into the origin and early evolution of snakes. However, madtsoiids are known mostly from their vertebrae, and their skull morphology and phylogenetic affinities have been enigmatic. The fossil material of *Wonambi* described here allows the first detailed assessment of madtsoiid cranial anatomy and relationships. Despite its recent age, which could have overlapped with human history in Australia, *Wonambi* is one of the most primitive snakes known—as basal as the Cretaceous forms *Pachyrhachis* and *Dinilysia*. None of these three primitive snake lineages shows features associated with burrowing, nor do any of the nearest lizard relatives of snakes (varanoids). The authors maintain that these phylogenetic conclusions contradict the widely held “subterranean” theory of snake origins, and instead imply that burrowing snakes (scolecophidians and anilioids) acquired their fossorial adaptations after the evolution of the snake body form and jaw in a large aquatic or (surface-active) terrestrial ancestor.

LOGGERHEAD NEST SITE SELECTION

D. W. Wood and K. A. Bjorndal [2000, *Copeia* (1):119-128] report that nest site selection in reptiles can affect the fitness of the parents through the survival of their offspring because environmental factors influence embryo survivorship, hatchling quality and sex ratio. In sea turtles, nest site selection is influenced by selective forces that drive nest placement inland and those that drive nest placement seaward. Nests deposited close to the ocean have a greater likelihood of inundation and egg loss to erosion whereas nest placement farther inland results in greater likelihood of desiccation, hatchling misorientation, and predation on nesting females, eggs and hatchlings. To evaluate the role of microhabitat cues in nest site selection in loggerhead sea turtles (*Caretta caretta*), the authors assessed temperature, moisture, salinity (conductivity), and slope along the tracks of 45 female loggerheads during their beach ascent from the ocean to nest sites in the Archie Carr National Wildlife Refuge in Florida on the beach with the greatest density of loggerhead nesting in the Atlantic. Of the four environmental factors evaluated (slope, temperature, moisture and salinity), slope appears to have the greatest influence on nest site selection, perhaps because it is associated with nest elevation. The results of this study refute the current hypothesis that an abrupt increase in temperature is used by loggerheads as a cue for excavating a nest. Moisture content and salinity of surface sand are potential cues but may not be reliable for nest site selection because they can vary substantially and rapidly in response to rainfall and changes in the water table. Sea turtles may use multiple cues for nest site selection either in series with a threshold that must be reached for each environmental factor before the turtle initiates nest excavation or integrated as specific patterns of associations.

AGGRESSION IN FEMALE COLLARED LIZARDS

C. L. Sloan and T. A. Baird [1999, *Herpetologica* 55(4): 516-522] tested the hypotheses that intrasexual female aggression increases following oviposition, and that heightened post-ovipositional aggression functions in the defense of nesting sites in female collared lizards, *Crotaphytus collaris*. Daily focal observations on seven females prior to and after oviposition revealed that both agonistic intrasexual aggression and travel rates were higher during the five days following oviposition than during the five days before eggs were laid. These results support the hypothesis that intrasexual female aggression increases following egg laying in this species. However, intrasexual female encounters following oviposition did not consistently occur near to nesting sites, and females did not always construct their nests close to home range core areas as would be expected if nests are defended. Indeed, some females constructed nests distant from their home ranges and did not remain near their nests following oviposition. These results are not consistent with the hypothesis that increased post-ovipositional aggression functions in the defense of nests in females of *C. collaris*. Alternatively, the authors suggest that heightened post-ovipositional aggression functions to re-establish ownership of home ranges and to prevent intrusion by competitors after the one- to two-day absence required to dig a nest and deposit eggs.

SOUTHWESTERN SLIDER TURTLES

M. E. Seidel et al. [1999, *Herpetologica* 55(4):470-487] report that examination of specimens and locality data of *Trachemys scripta elegans*, *T. s. gaigeae*, and *T. s. cataspila* in the southwestern United States and northeastern Mexico indicates these three taxa are primarily allopatric. Morphometric analysis further indicates that these forms are distinct, without evidence of intergradation. Little or no overlap of diagnostic marking patterns was detected, except for variation in the supratemporal stripe of *T. s. elegans* in the lower Rio Grande and Pecos River. Hemoglobin (analyzed by isoelectric focusing) of sliders in those drainages was also variable. Although limited introgression between *T. s. elegans* and *T. s. gaigeae* or *T. s. cataspila* might be possible in the lower Rio Grande, specimens of *T. s. elegans* from the area are not intergrades, and therefore we do not consider them to be conspecific with the other forms. Six specimens from the upper Rio Grande are possibly hybrids of *elegans* and *gaigeae* but their status is problematic. The appropriate species designations of *gaigeae* and *cataspila* await a broad phylogenetic analysis, including all forms in the *T. scripta* complex.

REPRODUCTION IN TWO MEXICAN HORNED LIZARDS

K. R. Zamudio and G. Parra-Olea [2000, *Copeia* (1):222-229] note that two species of horned lizards, *Phrynosoma braconieri* and *P. taurus*, are endemic to México and inhabit medium and high-elevation sites in the states of Oaxaca, Guerrero, and Puebla. They compiled information on distribution and reproductive cycle for these two species from the literature and from an examination of specimens in systematic collections. This study confirms a viviparous mode of reproduction for both species and suggests that their reproductive cycles may be different from that observed in other viviparous *Phrynosoma*. Specifically, embryonic development occurs during the late fall and winter months, with a parturition date in early spring. In contrast, other viviparous horned lizards gestate during the spring and summer months and give birth to their young in the late summer. Examining the phylogenetic distribution of reproductive modes in this genus suggests that two high-elevation clades of horned lizards have independently evolved viviparity from an oviparous ancestor, yet each of these clades has evolved a distinct reproductive cycle.

Bull. Chicago Herp. Soc. 35(3):59, 2000

In Memoriam: Dr. Gordon R. Thurow

In 1989 I was in Graduate school at Western Illinois University in Macomb, Illinois. I was taking a herpetology class taught by a very energetic, gray-haired man, with a slightly weathered look, the kind you see in American western movies. He always had a smile on his face. He was kind, gentle and quiet with a library of fascinating facts that remained tucked away in his brain, until you happened to ask him about herpetology. Dr. Gordon Thurow amazed me.

That year while taking Dr. Thurow's class I found the northernmost specimen of *Virginia valeriae elegans* (western smooth earth snake) in Illinois while on a visit to Knox County. I came to him with the specimen so he could verify the species. He was excited to see it and told me that he had found the same species in McDonough County as well. He encouraged me to publish the finding. Dr. Michael Morris was so interested in the discovery that he came to the university to pick up the specimen and deposit it in the Illinois Natural History Museum collection. He also encouraged my interest in herpetology and urged me to publish the finding. Publishing a scientific paper is a rite of passage for developing scientists. And I was thrilled after publishing my first paper in the *Bulletin of the Chicago Herpetological Society* (Volume 25, Number 1, January 1990).

I then concentrated on summarizing locality data I had collected on native herp species in western Illinois. I asked Dr. Thurow if he would be interested in publishing any data he accumulated. The paper was quite comprehensive and somewhat coldly received by peers after publication in the *Bulletin*. A majority of the species locality data was published to fill in gaps in P. W. Smith's 1961 *The Amphibians and Reptiles of*

Illinois, which I carried around religiously.

A couple of years later in 1992, I assisted Ellin Beltz in the statewide (Illinois) massasauga status and distribution survey for the Illinois Department of Natural Resources. We visited Dr. Thurow to obtain a massasauga specimen for the study. Shortly after the study was completed, the massasauga was listed as an endangered species in Illinois.

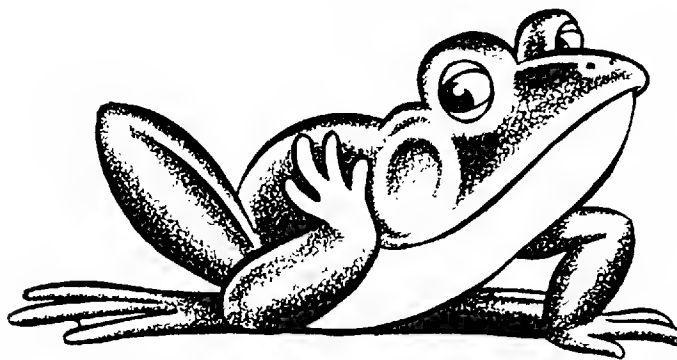
Dr. Thurow was known for relocating herp species onto his property for many years. Several peers were bothered by his actions, but Dr. Thurow kept records of his progress and eventually published some of his findings. I suspect his data will be helpful now that relocation has been revisited in the last couple of years as a way of potentially saving local populations, and starting new ones in old locations. In today's world of subdivision development, wetland filling, and wetland mitigation, relocation may be the only way some herp species might have a chance to survive in rapidly urbanizing areas. I feel that Dr. Thurow's efforts will be instrumental in determining courses of action for future relocation projects in Illinois. Although I have not seen him in several years, I will miss him and I am deeply saddened by his passing. However, my memory of his smile, energy and his enthusiasm for wildlife, lingers in my mind and provides me with a warm melancholy. I only hope that I can show as much dedication as Dr. Thurow had for the environment and for all creatures great and small.

Robert P. Sliwinski, Senior Environmental Resource Specialist/Wildlife Biologist, Christopher B. Burke Engineering, Ltd., 9575 W. Higgins Road, Suite 600, Rosemont, IL 60018
E-mail: birdman@ripco.com

The Tympanum

In February three amendments to existing Illinois laws — each with the potential to affect everyone in the state who keeps reptiles — were proposed. House Bill 4067 would have modified the Illinois Dangerous Animals Act. It died in the House Agriculture Committee on February 15. The status of Senate Bill 1834, a differently worded amendment to the same act, is less clear, but apparently it is also dead. Senate Bill 1398 would amend the Animal Welfare Act. It would require pet shops selling reptiles to post a notice regarding safe reptile-handling procedures. This bill was approved by the Senate Agriculture Committee on February 15. It will go before the entire legislature later this year. For the exact wording of the three proposed amendments, follow the links at the CHS website <www.chicagoherp.org>. The following letter from veterinarian Steve Barten discusses some of the issues involved.

MAD



expanded the definition to include any infectious disease that might come up.

This opens a whole can of worms. Here's an example. Some imported tortoises have been found to harbor ticks, some of which were found to carry Q fever, a disease that can infect people. Under the proposed laws, are

all tortoises to be banned in Illinois?

Moreover, who is to determine which diseases are considered "life threatening," assuming diseases other than salmonellosis are included? Will the Department of Agriculture publish a list? How is an owner to determine if their herp has such a disease? Will every snake and lizard be required to undergo various blood tests, fecal cultures, and radiographs? Who is responsible for false negative results? How many herps will suffer from false positive results? If tests do determine a reptile has some disease, what is to be done with the infected reptile? Is it to be destroyed, or could it be treated with, say, antibiotics and rendered safe once more? Is the owner then breaking the law until treatment is complete?

Virtually every animal, including cats and dogs, harbor bacteria that could infect people, especially if passed through a bite wound. Over 90% of all puppies and kittens harbor roundworms, which can infest children and cause visceral larval migrans, blindness, and other problems. Some of these infections could, in rare circumstances, become life threatening. Are all cats and dogs to be banned as well?

To further complicate matters, there is the whole *Salmonella* debacle. If salmonellosis is considered a life-threatening disease to humans, and humans do occasionally die from *Salmonella* infections, the fact remains that *Salmonella* organisms tend to be shed by reptiles intermittently. Even after several negative cultures, a reptile could still harbor the organism. How is the owner to know whether their reptile is in violation of the law?

You can imagine the difficulties and inconsistencies sure to arise in any attempted enforcement of such a vague, imprecise law, especially in the face of such a complex situation. Instead, SB1398 offers a more rational approach. It regulates public education, requiring pet stores to display and distribute literature regarding safe reptile-handling practices to prevent the transmission of *Salmonella* bacteria. This is the same approach that was undertaken concerning potentially contaminated meat in food stores. This bill has my endorsement.

Let me turn to the problem of the definition of which reptiles are inherently dangerous. The Illinois Dangerous Animals Act prohibits the ownership of "life-threatening reptiles." This term has been a problem from the outset, because it is vague and open to interpretation. SB1834 amends this definition to include all crocodilians and "any constricting snake capable of injuring an infant or child." ANY ANIMAL INCLUDING EVERY PUPPY AND KITTEN is capable of injuring a child. Injury is a broad subject and includes tiny scratches. This

Thank you for alerting me that the Illinois State Legislature is once again attempting to protect the public from the menace of captive reptiles, and for soliciting my views on the subject. There have been a number of news reports concerning incidents of escaped reptiles, some of which have injured children and more conventional pets. Likewise the increasing number of reptile-related salmonellosis cases in people is well documented. Therefore, this cause probably has some merit.

Unfortunately, the proposed rules are no better than the current ones, and merely substitute one arbitrary and confusing jargon for another.

Let me discuss disease avoidance first. Two amendments to the Illinois Dangerous Animals Act (SB1834 and HB4067) and one amendment to the Illinois Animal Welfare Act (SB1398) have been proposed to protect the public from exotic pet-borne disease. The first, SB1834, considers "life-threatening reptiles," which are banned from private ownership by the Illinois Dangerous Animals Act, to include "any reptile recognized to be a carrier of any life-threatening disease." HB4067 has a similar but broader provision, expanding the definition of "dangerous animals" to include "any animal that is actually infested with an infectious disease that is dangerous to humans." Both provisions are as vague and as impossible to interpret as the original phrase, "life-threatening reptile." Obviously lawyers wrote these terms and in their attempt to be all-inclusive, made them typically obscure and confusing. There is only one disease of any consequence that can be transmitted from a reptile to people: salmonellosis. There are thousands of reported cases of reptile associated salmonellosis among people in the United States annually. Nevertheless, according to recent estimates from the Centers for Disease Control and Prevention, these account for only 7% of all salmonellosis cases. Most cases originate from contaminated food, and in this country *Salmonella* infects 40% of the poultry and egg supply, 12% of the pork, and 5% of the beef. Rather than banning reptiles infected with *Salmonella*, the lawyers

clause is every bit as arbitrary and confusing as the original term, “life-threatening reptiles.” Who is to determine which snakes are capable of inflicting injury? Of course, an 18-foot anaconda obviously is capable, but what about the borderline cases? When does an 18-inch hatchling Burmese python become capable of inflicting injury, and therefore illegal? At four feet in length? Five feet? Six feet? You can’t do it by length, as is currently used for enforcement, because it’s impossible to say with scientific accuracy that a five foot, eleven and a half inch snake is perfectly safe, but if it grows half an inch it becomes dangerous. How is an owner to know when they begin breaking the law? Look at the rest of the Dangerous Animals Act. They don’t list “wild canids and felids capable of injuring a child.” Baby tigers grow up, and it’s ridiculous to suggest one can own a tiger cub because they’re safe, knowing that every cub grows into a dangerous adult. If it’s illegal to own a 16-foot Burmese python, it should be illegal to buy a baby one. What is to become of legal juveniles when they become dangerous adults?

The very answer has been under the legislators’ noses all the time. The Dangerous Animals Act lists species of dangerous mammals—bears, tigers, lions, and the like—period. Mammals have no disease clause, no size clause, no qualification that only “life-threatening mammals” can’t be kept. Specific species are listed.

So too should it be for reptiles.

I know that won’t be popular among reptile owners, and that a number of CHS members own and responsibly keep some of these species, but this is the only logical way to control “dangerous” reptiles. Specific species should be banned. Even “venomous” is a broad term and if enforced to the scientific definition, garter snakes would be outlawed.

The best law I ever saw in this regard was the Arizona Reptile and Amphibian Regulations. In addition to outlawing species which might become established in the state and damage native reptile populations, Arizona outlaws the following potentially dangerous ones: “all species of the order Crocodylia; all species of the following families or genera of Squamata (snakes and lizards): Helodermatidae (Gila monsters), Elapidae (cobras, coral snakes), Hydrophiidae (sea snakes), Viperidae (vipers and pit vipers), Atractaspidae (burrowing asps), as well as *Dispholidus typus* (boomslang snake), *Thelotornis kirtlandii* (twig snake), and *Rhabdophis* sp. (keelback snakes). There is no room for interpretation here. Anyone reading the law understands it and knows if his pets are legal or not. By the way, Arizona does not see fit to outlaw constricting snakes of any type.

Illinois should pattern her laws on that example. The banned reptiles listed in Arizona’s regulations are all potentially dangerous and should be regulated. If the intent of the law also is to prohibit the private ownership of large, constricting snakes, the individual species that are banned should be listed to prevent confusion. I submit that a six-foot constricting black rat snake or bull snake presents no danger to anyone, but a 16-foot reticulated python has potential. If any constricting snakes are banned, the list should only include the true giants: green

anaconda (*Eunectes murinus*), Burmese python (*Python molurus bivittatus*), reticulated python (*Python reticulatus*), and African rock python (*Python sebae*).

That’s my general proposal. It would allow consistent enforcement, it would allow anyone to know whether they were in violation of the law (unlike the current arbitrary one), and it would eliminate the problem of legal juveniles and illegal, homeless adults.

I also support SB1398 (the pet store notification of *Salmonella* risks) as opposed to making “infected” reptiles illegal.

If only it could be that simple. I also believe the people who keep some of these species responsibly should have access to some form of permit process, but that’s a complex issue in itself, worthy of its own letter.

To quote Dennis Miller: Of course that’s just my opinion, I could be wrong.

Steve Barten, DVM, Vernon Hills Animal Hospital, 1260 Butterfield Road, Mundelein IL 60060.

Last fall the following promotion appeared in a Neiman Marcus catalog:

18 Crocodile Trip and Chair Here’s your chance to own one of the most coveted leathers on earth. Neiman Marcus will fly you and a guest from Los Angeles to Sydney on Air New Zealand for a seven-day “Salties” safari. The largest reptile known to man and considered the most dangerous, saltwater crocodiles grow to more than 20 feet long and a full 2,000 pounds. Because these mammoth creatures are also some of the most vicious, the Australian government permits their hunting. You will enjoy the accommodations of the luxurious Sydney Hyatt overlooking the Sydney Opera House and have a chance to take in the sights of the city before heading north to Darwin where you will tour the crocodile farm and be briefed on the excursion to follow. Accompanied by a professional guide and within the safe confines of a chartered helicopter, you will participate in the hunt at whatever level you feel most comfortable. The crocodile’s skin will then be used to craft a one-of-a-kind chair of your choosing. Because the skin is extremely rare and offers the unique ability to create furniture without a single seam, this is the trophy of a lifetime. You may choose both the tanned color as well as the style of chair during a private meeting with NM® representatives. The finished chair will be shipped directly to you approximately 8-10 weeks after your trip and will include a certificate of authenticity that provides proof of the skin’s origin and confirms that it was harvested according to Australia’s strict conservation standards. For complete details, call 877-9NM-GIFT

18. Crocodile Trip and Chair 75,000.00 (X)

Below is a letter written by Lori King seeking clarification on Australia’s laws, and the responses that her letter generated. Lori has also written to Neiman Marcus on behalf of the CHS, but as yet they have not seen fit to reply.

Mr. Steve Irwin, Australia Zoo
Glass House Mountain Tourist Route
Beerwah, Queensland 4519
AUSTRALIA

Dear Steve:

I wanted to bring this ad from a recent Neiman Marcus catalog

to your attention. It offers a custom chair upholstered in saltwater crocodile skin, along with a trip to kill the animal for a mere \$75,000. The chair covered in saltie skin is disturbing enough, but the inclusion of the trip to shoot the crocodile of your choosing from a helicopter is archaic.

The text in the enclosed ad [implies] that Australia allows the killing of crocodiles because they are some sort of threat to human beings. Obviously the Australian government does not allow random killing of these magnificent animals. This misleading venture appears to be in partnership with a crocodile farm. The victim—the trapped crocodile—is rendered defenseless. Before I write to Neiman Marcus on behalf of the Chicago Herpetological Society, I wanted to ask you what the Australian laws are concerning crocodile hunting.

You were the first person we thought of contacting because of your wonderful conservation work with your country's herps, in particular the saltwater crocodile. Our collective CHS hats are off to you for the manner in which you are educating the world about reptiles. Because your interest in reptiles is truly from the heart, the viewer cannot help become engaged with your scaly subjects. Your approach is one of knowledge and great enthusiasm for these extraordinary animals.

Thank you, Steve. I realize you are very busy, and your attention is doubly appreciated. I look forward to hearing from you.

Sincerely, **Lori King**

§

Dear Lori and Society Members,

I applaud your reaction to the 'Neiman Carcass' Saltwater Crocodile hunt/trophy. What a disgusting horrifying advertisement. We have taken this to the highest possible level. The backlash that John Howard (Prime Minister of Australia) and Senator Robert Hill (federal Minister for Environment) are currently suffering will undoubtedly work its way back down to the disgustingly low level of the 'Neiman Carcass' people.

I will personally put myself in the line of any trophy hunter's telescopic sights prior to them pulling the trigger. If I get shot, there will be several hundred million people to take my place. We must fight this atrocity with all our might. We have sent your letter to every single politician and our allies to demonstrate the emotion this ILLEGAL act is stirring.

Slowly but surely the human race evolved beyond cannibalism and slavery—I sincerely hope we will evolve to cherish the reptilians we share our earth with. Together we are strong. Yours truly, **Steve Irwin, Australia Zoo, Glass House Mountains Road, Beerwah, Queensland 4519, Australia.**

§

Dear Lori,

Steve Irwin passed on to me the letter you wrote to him about the Neiman Marcus advertisement to trophy hunt crocodiles.

Thank you so much for taking an interest in this matter. Along with many other Australian groups, we have written to the Federal Environment Minister expressing our outrage. We

have also written to the Australian Prime Minister.

At this stage it appears that such a hunt would contravene the Federally approved Northern Territory Crocodile Management Plan. We knew that the original proposal from the NT in 1998, included a request to allow such trophy hunts. and of course we opposed that bitterly.

We have now asked the Minister to advise us whether the approved Management Plan includes hunting. It is the opinion of some groups, including Animals Australia, that trophy hunting contravenes the approved Plan. It all sounds a bit complicated, I suppose, but it is likely that the Neiman Marcus advertisement was illegal. . . .

Thank you for writing to Steve about the crocodile trophy hunt advertisement, we very much appreciate it. I will write again and let you know when we obtain some resolution of this matter.

Yours faithfully, **Pat O'Brien, President, Wildlife Protection Association of Australia Inc., P.O. Box 1334, Yeppoon, Queensland 4703, Australia.**

§

Dear Lori,

Please find enclosed a copy of a letter we received from Environment Minister Senator Robert Hill. It appears that the advertisement by Neiman Marcus did breach the Northern Territory Crocodile Management Plan. It is our intention to write again to the Senator, requesting further information as to the results of any investigation.

We do however have many concerns about the whole program. These include strong doubts that the farming of crocodiles has any conservation benefits. We also have concerns about the large number of crocodiles allowed to be taken from the wild, 600 *porosus* and 200 *johnstoni*. We understand that this is an indigenous take, but it seems rather large to us.

As well, Northern Territory crocodile farmers are loud supporters of further experiments in wildlife farming and harvesting, including turtles, flying foxes, magpie geese, and even dugong. . . .

There is no evidence of any conservation benefit in any of these activities. Thank you again for your interest in this matter, and I will write again should further developments occur.

Yours sincerely, **Pat O'Brien, President, Wildlife Protection Association of Australia Inc., P.O. Box 1334, Yeppoon, Queensland 4703, Australia.**

Advertisements

American Federation of Herpetoculturists: A nonprofit national membership organization of herpetoculturists, veterinarians, academicians and zoo personnel involved in the captive husbandry and propagation of amphibians and reptiles. Membership includes highly acclaimed magazine, *The Vivarium*, dedicated to dissemination of information on herpetocultural accomplishments, herp medicine, breeding and maintenance, field studies and adventures, enclosure design and much more. AFH membership is \$26. Send information requests to: AFH-News, P.O. Box 300067, Escondido CA 92030-0067.

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (352) 495-9024, E-mail: GrmtRodent@aol.com.

For sale: murine-pathogen-free rats and mice available in all sizes, live or frozen: pinkies, fuzzies, crawlers, small, medium and large. Frozen crawler mice in lots of 2000, \$.17 each. Also available, full grown hairless mice. FOB shipping point. Master Card accepted. Call (518) 537-2000 between 8:00 A.M. and 5:00 P.M. or write SAS Corporation, 273 Hover Avenue, Germantown NY 12526 for prices and additional information.

For sale: from **The Mouse Factory**, producing superior quality, frozen feeder mice and rats. We feed our colony a nutritionally balanced diet of rodent chow, formulated especially for us, and four types of natural whole grains and seeds. Mice starting from: pinks, \$.17 each; fuzzies, \$.24 each; hoppers, \$.30 each; weanling, \$.42; adult, \$.48. Rats: starting with pinks at \$.45 each, to XL at \$1.80 each. Discount prices available. We accept Visa, MC, Discover or money orders. P.O. Box 85, Alpine TX 79831. Call us **toll-free** at (800) 720-0076 or visit our website: <http://www.themousefactory.com>.

For sale: from Bayou Rodents, excellent quality feeder mice and rats. Every size available. Pinks starting at \$20/100. Orders are shipped by overnight service Monday thru Thursday. We accept Visa, MasterCard and Discover. For more info, contact Rhonda or Peggy, (800) 722-6102.

For sale: **high quality frozen feeders**. Over a decade of production and supply. Seven sizes of mice available: small newborn pinks up to jumbo adults. Prices start at \$25 per 100. Feeders are separate in the resealable bag, not frozen together. Low shipping rates. Free price list. Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358 evenings and weekends.

For sale: Complete set of the *Vivarium* (Vol. 1 No. 1 to Vol. 11 No. 2, inclusive), no issues are missing. Magazines are in excellent condition, bids start at \$400 for the set. E-mail bids to: Teufel6@aol.com. Highest bid by May 10, 2000, wins. Payment can be made as a tax-deductible donation to fund a research project of endangered herps in Latin America.

For sale: herp books. *South African Frogs* by Passmore and Carruthers, 1987 (first edition), 270 pp., each species illustrated by many color and b&w photos, comprehensive field guide, comes with record with frog calls; DJ; as new, \$50; *Captive Management and Conservation of Amphibians and Reptiles* edited by Murphy, Adler, and Collins, 1994, 408 pp., many tables, graphs, b&w photos, a current review of techniques for managing and breeding herps in captivity, papers written by 70 leading authorities and presented at a SSAR and Herpetologists' League-sponsored symposium, DJ, like new, \$45; *Reptiles and Amphibians of Australia* by Harold Cogger, 1986 revised edition, 688 pp., 882 b&w and 224 color photos, range maps, keys and figures, DJ, \$55; *Australia's Reptiles* by Wilson and Knowles, 1988, 447 pp., 847 color photos of reptiles plus others of habitats, a comprehensive reference to the terrestrial reptiles, DJ, \$90; *Living Reptiles of the World* by Schmidt and Inger, 1957, DJ, \$30; *Australia's Venomous Wildlife* by John Stackhouse, 1972 reprint (1970), 144 pp., many b&w and color photos, DJ, includes snakes, fish, platypus and invertebrates, \$30; *Take Care! Poisonous Australian Animals* by Dr. Struan Sutherland, 1983, 48 pp., color photos, includes info on snakebite treatment, \$12. All books hardbound and in excellent condition. Prices postpaid. William R. Turner, 7395 S. Downing Circle W., Littleton, CO 80122 (303) 795-5128; E-mail: turnerbmrk@prodigy.net

For sale: Now taking reservations for the following c.b. 2000 expected garter snake offspring: **Blais crimsons**, as seen in *Vivarium*, Vol. 9, No. 6, p. 10. This will be my first year producing these outrageous morphs. Crimson red with minimal black and white intermixed plus other possible variations. **I have 1 female that is solid black with pumpkin orange fleckings throughout her entire body plus an almost solid orange head.** Crimsons will be extremely popular for years to come. Prices vary based on degree of red, \$200–250 each. **Blais flames**, as seen in *Vivarium*, Vol. 9, No. 6, pp. 12–13. Sharp morphs with varying degrees of red/orange on sides and heads. Prices vary based on degree of red/orange, \$50–125 each. **Blais peach**, attractive peach coloration with black, white and yellow intermixed, also seen in *Vivarium*, Vol. 9, No. 6, p. 13, \$50 each. **Anerythristic eastern**, originated in Illinois, dark black with sky blue dorsal stripe and blue ventrals, waiting list started, limited numbers available, \$175 each; **melanistic × anerythristic**, this cross could produce something unique in the F₂ generation, \$75 each; **Florida × anerythristic**, Florida babies are typically large, and one of the easiest to get onto mice, \$65 each; **het anerythristic**, \$50 each; **melanistic eastern**, midnight black with white chins, copy of permit provided upon request, \$25 each; **Florida blue (*sirtalis*)**, varying degrees of blue have made this color morph extremely popular, price varies based on degree of blue, \$10–50 each; **anerythristic red-sided garter**, charcoal black with gray dorsal stripe and white fleckings throughout entire body, beautiful morph, \$100 each; **het anerythristic red-sided**, \$50 each; **possible het anerythristic red-sided**, \$25 each; **snow plains**, these are beautiful, snow white with a faint stripe and ruby red eyes, produced for the first time in 1999, **snows**, \$375 each, **hets**, \$175 each; **albino plains (Illinois strain) × red plains**, these will be popular for years to come—red strain is 2 bloodlines, all from Illinois, one brick-red with black spots throughout the body, the other a shade lighter, **ultimately this breeding should produce blood-red albinos, sure to be spectacular**, limited numbers available, **albino × red**, \$150 each, **albino hets**, \$60 each; **albino plains**, this bloodline is from Iowa, the classic albino, pearly white with lavender intermixed and pink eyes, similar to albino Cal kings, ⅔ are het for anerythristic as well, 2 free possible hets with each pair purchased, while they last, **albino**, \$125 each; **anerythristic plains**, dark black with gray dorsal stripe and blue ventrals, 2 bloodlines, Iowa and Illinois, Iowa bloodline is ⅔ het for albino as well, Illinois bloodline has limited numbers, 2 free possible hets (Iowa bloodline) with each pair purchased, while they last, **anerythristic**, \$100 each, **het anerythristic (Illinois bloodline)**, \$50 each; **quad het plains**, the breeding of 2 unrelated double hets (albino/anerythristic × albino/anerythristic), albinos are from Iowa and Nebraska, anerythristics from Illinois and Iowa, numerous possibilities exist with this breeding, the best being that the ingredients are there for 2 different snow strains, \$75 each. Scott Felzer, (919) 934-0110, EST [NC]. 20% refundable deposit will guarantee your spot on a waiting list. I'm always looking for aberrant/unusual garters, let me know what you have. **Most garter snake species will eat rodents and it's generally easy to convert them to rodents as babies.**

For sale: Great snakes, great service. Send SASE for list. Applegate, P.O. Box 338, Campo CA 91906, (619) 478-5123. E-mail: applesnake@juno.com. Website: <http://www.applegatereptiles.com>. Thank you, call me.

For sale: Brazilian rainbow boas, c.b. 9/99 from beautiful red parents w/ orange half-moons, \$125 each; Mexican rosy boas, cream w/ brown striping, \$50 each; Macklot's pythons, pair of flawless hatchlings, \$175/pair; black & white banded Cal. kings, \$25–35. Mark, Strictly Serpents, (847) 854-3259.

For sale: Send SASE to CRC, P.O. Box 0731, Las Vegas NV 89125-0731 for brochures and list of species available. Limited bookings available for guided tours of herpetological collection sites in Nevada. Call/fax (702) 450-0065. URL <http://www.herp.com/crc/> E-mail: crccsafetie@aol.com.

Tours: Adventure tours to Madagascar! Join **Bill Love** seeing and photographing fauna and flora, heavily herp-biased, across the world's least known mini-continent. Maximum fun & photo ops assured on every trip. Contact him at: BLUE CHAMELEON VENTURES, P.O. Box 643, Alva FL 33920. TEL: (941) 728-2390, FAX: (941) 728-3276, E-mail: blove@cyberstreet.com.

Tours: **Road-riding in Costa Rica!** Treat yourself to the trip of a lifetime! Learn about tropical herps, find them, photograph them, see where they live. **Greentracks, Inc.**, offers the best herpetological tours led by internationally acclaimed herpetologists and herpetoculturists. See the Amazon, visit cloud forests, experience the world's greatest rainforest, super sunsets and good company. Call (800) 9-MONKEY.

Wanted: to hear from anyone who has treated giardiasis in snakes. Mrs. Cora M. Peterson, 189 Stone Church Road, Wheeling WV 26003.

Advertisements (cont'd)

Wanted: big-headed turtles; mata mata turtles; Mexican giant mud turtles (*Staurotypus triporcatus*); exceptionally large common snappers (45 lbs. & up); large alligator snappers (over 90 lbs.); spectacled caiman from Trinidad, Tobago and Surinam; dwarf caiman; smooth-fronted caiman; albino turtles (except red-eared sliders). Walt Loose, (610) 926-6028, 9:00 A.M. – 1:00 P.M. or after 11:30 P.M. Eastern Time.

Line ads in this publication are run free for CHS members — \$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (773) 588-0728 evening telephone, (312) 782-2868 fax, E-mail: <MADadder0@aol.com>.

News and Announcements

DONATIONS TO THE JANUARY 25 RAFFLE

The following is a listing of those businesses and individuals who generously donated items for our monthly raffle at the January 25 meeting. The donated items are shown in parentheses.

Top Hat Cricket Farms (coffee mug); **Absorption Corp.** (Carefresh bedding); **Tetra** (ReptoMin aquatic turtle food / Reptovit vitamin supplement / sulfa block); **Hagen** (OrnamentAlls cage decor / Prime vitamin supplement); **Ghann's Cricket Farm** (cricket gift certificate); **Fancy Publications** (*Reptiles* magazines); **Timberline** (fruit fly culture kit); **Rep-Cal** (bearded dragon food); **Fluker's** (Cricket Quencher); **Rainbow Mealworms** (mealworm gift certificate); **Pretty Pets** (iguana food); **ZooMed** (bearded dragon food / nightlight red bulb); **Four Paws** (high range thermometer); **Super Pet** (Hanging Gardens cage decor / ceramic dishes / Floating Island); **Reptile Emporium** (InsectNside candy / Larvets Worm Snax); **Eric Mendoza** (lizard bracelets); **Rob Carmichael — Lake Forest Wildlife Discovery Center** (heat mat); **Don Wheeler** (T-shirt); **Ron and Dotty Humbert** (herps of Illinois poster); **Marcia Rybak** (alligator charm).

Visit the CHS Website at
<http://www.chicagoherp.org>

It's where to find:

- Herpetological headlines
- Herps of Illinois, with photos
- Information on ReptileFest 2000
- Information on CHS Herpetological Grants
- Calendar of events
- Society information (membership, bylaws, back issues of the *Bulletin*)
- Contact information for board members and committees
- Book reviews

MOVING??

Please let us know in plenty of time of any change in your mailing address. The *Bulletin of the Chicago Herpetological Society* is sent to our U.S. members by bulk-rate third class mail. This means that the U.S. Post Office will not forward your *Bulletin* with the rest of your mail. This is so even if you make a special request that your magazines be forwarded (such a request only applies to second class mail).

Send your change of address notification to:

Chicago Herpetological Society
Membership Secretary
2060 N. Clark Street
Chicago IL 60614.

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at **7:00 P.M., Wednesday, March 29, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago.** World-renowned paleontologist **Dr. Paul Sereno** will speak on “Dinosaurs Are Reptiles.” Dr. Sereno will also discuss his discoveries of ancient reptiles — crocodiles and turtles that coexisted with dinosaurs. These reptiles remain much the same today as they were millions of years ago.

On April 26 **Dr. Gunther Kohler**, a herpetologist from the Senckenberg Museum in Frankfurt, Germany, will inform us about the conservation program for the endangered black spiny-tailed iguana, *Ctenosaura bakeri*. This lizard, thought to be extinct until 1994, is known only from Utila Island in the Caribbean Sea off the coast of Honduras.

The Chicago Turtle Club

The next meeting of the Chicago Turtle Club will be on Sunday, March 19, 1:00 – 3:30/4:00 P.M., at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Meetings are informal. Questions, children and animals are welcome. Parking is free. For more info call Lisa Koester, (773) 508-0034 or visit the CTC website: <http://www.geocities.com/~chicagoturtle>.

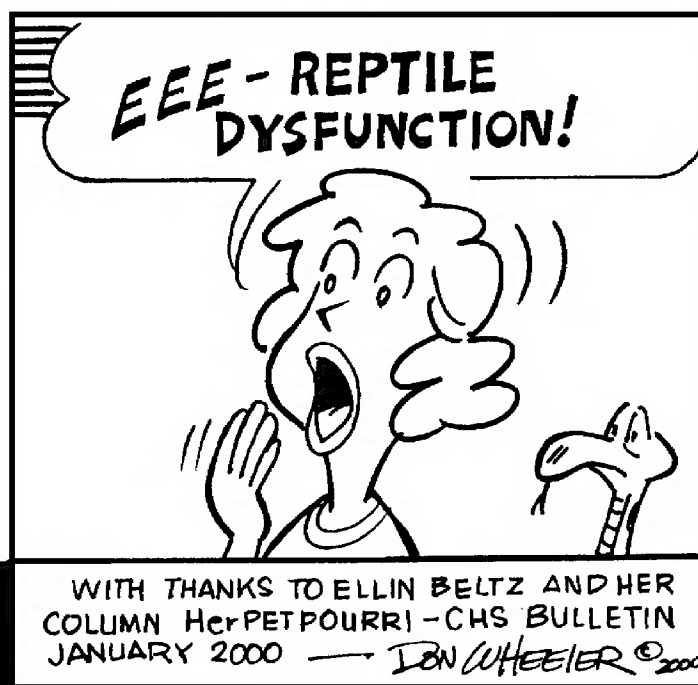
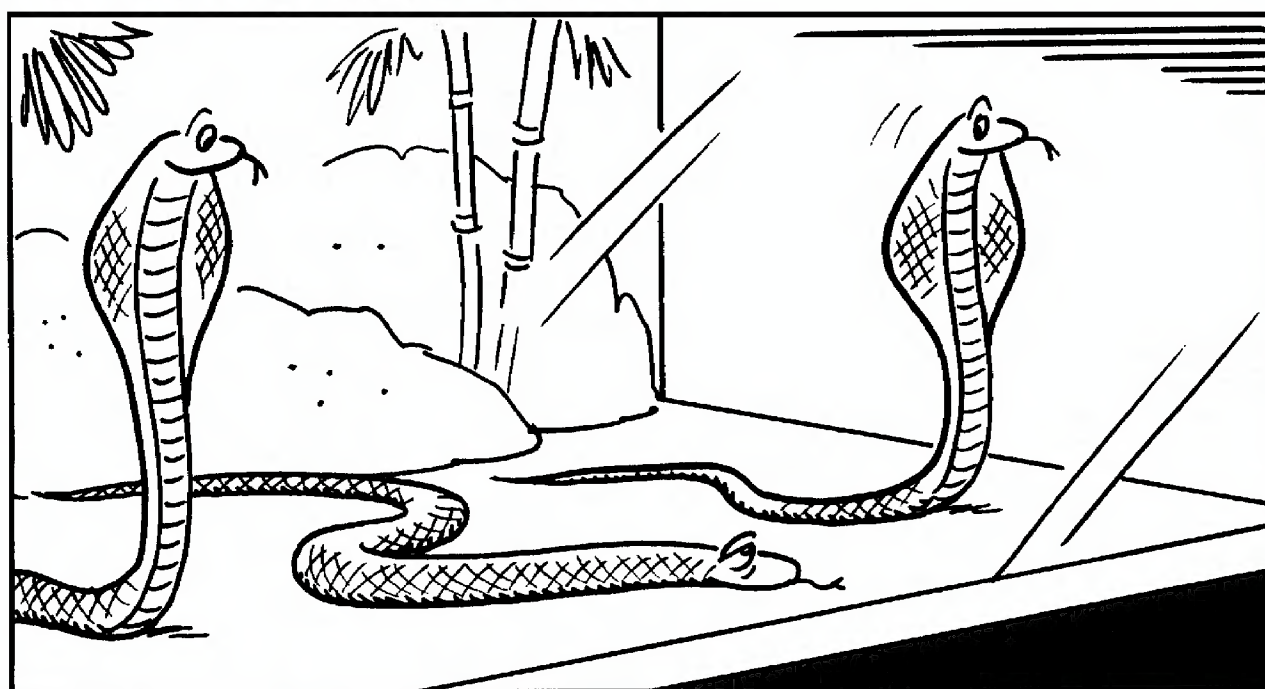
NEW MEETING SITE

Beginning March 29 the regular monthly meetings of the Chicago Herpetological Society will take place at Chicago's newest museum — the **Peggy Notebaert Nature Museum**. This beautiful new building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meeting dates will continue to be the last Wednesday of each month. Meetings will start a half-hour earlier — 7:00 P.M. — and will last until 9:30 P.M. Free parking is available on Cannon Drive and also across Fullerton in the Lincoln Park Zoo lots. A plethora of CTA buses stop within easy walking distance. March 29 will be a very special meeting — please join us.

SALAMANDER SAFARI

On Saturday, April 1, 2000, the Chicago Herpetological Society will hold its “almost annual” Salamander Safari throughout various areas of the Cook County Forest Preserves. This outing gives CHS members and their families and friends a chance to see herps, mostly amphibians, newly emerged from their winter dormancy. The emphasis is on amphibians and we usually find all four local salamander species and a few anurans as well. Viewing and photography are permitted, collecting is not. We encourage you to bring live or preserved amphibians from your personal collections. This way, regardless of the weather, we have animals to look at and enjoy. Terrarium set-ups, if not too large, can also be displayed. The event will begin at beautiful Camp Sagawau located at 12545 W. 111th Street (Route 83), in Lemont, Illinois. Traveling south on Route 83 from I-55, follow Route 83 to the left (east) at the point where Archer Avenue branches off to the right. Go about 100 yards to see the camp entrance on the left. Park in the designated parking lot and walk to the main building where we will begin at 9:00 A.M. We have use of the workshop until 1:00 P.M. and depending on attendance and weather, field trips to different areas within a 5-mile radius will embark during the 4-hour exercise. Doughnuts, juice and coffee will be available. Bring clothing and footgear suitable for the weather. We'll be walking in some wetland areas. Snacks, cameras and field guides are an option. A good time and an educational experience is guaranteed. If you have any questions, call Ron Humbert at (630) 620-7377.

THE ADVENTURES OF SPOT



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